

WW ENGINEERING & SCIENCE ALBION-SHERIDAN TOWNSHIP LANDFILL SITE ALBION, MICHIGAN

DRILLING AND INSTALLATION OF MONITORING WELLS

Subcontract 04011 - No.3 Solicitation No. 3

TABLE OF CONTENTS

Invitation to Bid Section 00020

Instruction to Bidders Section 00100

Bid Section 00300

Agreement Section 00500

General Conditions Section 00701

Supplemental Conditions Section 00800

Special Provisions Section I

Summary of Work Section 01010

WW ENGINEERING AND SCIENCE DRILLING AND INSTALLATION OF MONITORING WELLS

Albion-Sheridan Township Landfill Site Albion, Michigan

Sealed Bids for:

Drilling and installation of monitoring wells.

will be recieved by:

WW Engineering and Science Attention: Carl A. Malsom

at the office of:

WW Engineering and Science 5555 Glenwood Hills Parkway, S.E. P.O. Box 874 Grand Rapids, MI 49588-0874 Telephone: (616) 942-9600

until: July 21, 1992 at 4:00 p.m. (Eastern Daylight Savings time)

At which time the Bids will be publicly opened and read aloud at WW Engineering and Science office.

The contract awarded under this Invitation to Bid is funded under a Prime Contract with the U.S. Environmental Protection Agency and all Bidders will be required to comply with the following:

- Affirmative Action Regarding Utilization of Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business.
- Presidential Executive Order 11246 and Equal Employment Opportunity.

A certified check, bank draft, or Bid Bond in the sum of five percent (5%) of the amou	ınt
of the Bid will be required with each Bid.	

WW Engineering and Science

Carl A. Malsom

1.1 Terms used in this Section are defined in the General Conditions.

ARTICLE 1 - FUNDS AVAILABLE

- 1.1 Work to be done will be financed by:
 - a. The PRIME CONTRACTOR through the Prime Contract with the U.S. EPA.

ARTICLE 2 - BASIS OF PROPOSAL

- 2.1 The proposal is based on a combination of lump sum and unit prices.
- 2.2 The bid amount will be based upon landfill well drilling being done at Level C Safety protection and all other well drilling being done at Level D safety protection. The BIDDER is required to provide unit prices for drilling at levels of safety protection other than the level that is anticipated to establish prices in the event that other levels of safety protection must be employed.
- 2.3 Unit price items in the bid proposal include the estimated quantities of work which will be used as the basis for calculating the bid amount. Payment to the SUBCONTRACTOR will be made on the measurement of work actually performed and the PRIME CONTRACTOR reserves the right to increase or decrease the quantities of any work item as may be necessary.
- 2.4 All work necessary for completion of the Contract, but not specifically listed as a pay item, will be considered to be covered under one or more of the proposal items.
- 2.5 The proposal consists of the Bid Proposal and all unit price and lump sum bid items contained in the Unit Price and Lump Sum Bid Form including pages 00300.1 through 00300.25.
- 2.6 PRIME CONTRACTOR may add or delete work in the Contract.

ARTICLE 3 - COMPENSATION FOR STANDBY TIME

3.1 The SUBCONTRACTOR will be compensated for non-productive standby time caused by the PRIME CONTRACTOR or PRIME CONTRACTOR'S personnel or equipment on an hourly basis at the rate bid by the

- SUBCONTRACTOR as "Standby Time" as shown on the Unit Price and Lump Sum Bid Form page 00300.6.
- 3.2 The PRIME CONTRACTOR will be compensated for non-productive standby time caused by the SUBCONTRACTOR or SUBCONTRACTOR'S personnel or equipment on an hourly basis at the rate bid by the SUBCONTRACTOR as "Standby Time" as shown on the Unit Price and Lump Sum Bid Form page 00300.5 and page 00300.18.
- 3.3 The hourly compensation for standby time for either the SUBCONTRACTOR or PRIME CONTRACTOR will be determined at the end of each working day.

ARTICLE 4 - BID DOCUMENTATION

- 4.1 BIDDER must submit the following fully completed Certifications:
 - 4.1.1 Business Classification Certification
 - 4.1.2 Certification Regarding Debarred, Suspended and Ineligible Contractors.
 - 4.1.3 Clean Air and Water Certification
 - 4.1.4 Previous Contracts and Compliance Reports
 - 4.1.5 Certification of Nonsegregated Facilities
- 4.2 BIDDER must submit the following additional documentation:
 - 4.2.1 A list of major equipment to be used on this job, including age of equipment and equipment model.
 - 4.2.2 A brief biography of related experience for each employee of the BIDDER to be actively involved in this job.

ARTICLE 5 - SITE EASEMENTS

5.1 All necessary rights of way, land easements, and other interest in land have been secured by the U.S. EPA.

ARTICLE 6 - LABOR STANDARDS

6.1 Labor Standards Provisions are not applicable to this contract.

ARTICLE 7 - AWARD OF CONTRACT

- 7.1 The Contract will be awarded or all proposals rejected within 90 days after date of bid opening, subject to U.S. EPA approval. Contract Time is amended accordingly.
- 7.2 The contract will be awarded to a single BIDDER.
- 7.3 Bid shall remain firm for 90 days after bid opening.
- 7.4 If the successful Bidder is a Corporation not licensed to do business in the State of Michigan, such license shall be obtained prior to award of Contract.

ARTICLE 8 - PRE-BID MEETING

8.1 A Pre-bid Meeting and site visit is scheduled for July 9, 1992, at 10:00 a.m. Eastern Daylight Savings Time. The pre-bid meeting will begin promptly at 10:00 a.m. at the Sheridan Township Hall located at 13355 29 Mile Road, Albion, Michigan, and will be followed with a visit to the project site. Attendance at the pre-bid meeting is mandatory for all BIDDERS and the pre-bid meeting will begin promptly at 10:00 a.m. Bids will not be accepted from BIDDERS that fail to attend the pre-bid meeting or from BIDDERS that arrive after 10:00 a.m. The location of the Sheridan Township Hall is shown on Figure 1 and is located approximately 1-2 miles north of Albion, just north of Interstate 94.

ARTICLE 9 - NOTICE OF SPECIAL CONDITIONS

- 9.1. BIDDER's attention is directed to those parts of contract documents that deal with the following:
 - 1. Section I Special Provisions
 - 2. Business Classification Certification
 - 3. Certification Regarding Debarred, Suspended, and Ineligible Contractors.

- 4. Clean Air and Water Certification
- 5. Previous Contracts and Compliance Reports
- 6. Certification of Nonsegregated Facilities

ARTICLE 10 - OUALIFICATIONS OF BIDDERS

- 10.1 Bids are solicited only from responsible BIDDERS skilled and regularly engaged in work of similar character and magnitude.
- 10.2 Bids will be received only from Prequalified Planholders of Record.

ARTICLE 11 - EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 11.1 Before submitting a Bid, each BIDDER shall:
 - 11.1.1 Examine the Contract Documents thoroughly;
 - 11.1.2 Attend the pre-bid meeting and visit the site to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work. A site visit will be included in the pre-bid meeting, other unrestricted site visits are prohibited.
 - 11.1.3 Become familiar with all laws, rules and regulations that may in any manner affect cost, progress or performance of the Work; and
 - 11.1.4 Study and carefully correlate BIDDER's observations with the Contract Documents.
- 11.2 Surveys and investigation reports of subsurface or latent physical conditions at the site have been relied upon by PRIME CONTRACTOR in preparing the Drawings and Specifications. Copies of such surveys and reports are available for inspection upon request. Those reports are not guaranteed as to accuracy or completeness. Each BIDDER shall, at his own expense, make additional surveys and investigations as necessary to determine Bid for the performance of the Work.

ARTICLE 12 - INTERPRETATION

12.1 Questions about the meaning or intent of the Contract Documents shall be submitted to PRIME CONTRACTOR not less than 7 days prior to date of opening of Bids. Replies will be issued by Addenda faxed or delivered to Planholders of Record 5 days before Bids are due. Only answers given by Addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect.

ARTICLE 13 - BID SECURITY

- 13.1 The type and amount of Bid Security is stated in the Invitation to Bid.
- 13.2 Bid Bonds shall be issued by a Surety named in U.S. Treasury Circular 570 licensed to conduct business in the state in which the Work is located. Bid Security from each BIDDER on the Work shall be a Bond or Bonds written by a single Surety. The Bid Security form is outlined in Article 7 in the Bid Section of this document. The Bid Security of the successful BIDDER will be retained until the Agreement is executed.
- 13.2.1 The Bid Security of any BIDDER whom PRIME CONTRACTOR believes to have a reasonable chance of receiving the award may be retained by PRIME CONTRACTOR until either 7 days after the executed Agreement is delivered by PRIME CONTRACTOR to BIDDER or at time limit specified for issuance of Notice of Award, whichever occurs first.
- 13.2.2 Unless specifically requested, Bid Bond will not be returned to BIDDER.

FORFEITURE OF BID SECURITY:

- 13.3 Failure of the successful BIDDER to execute and deliver the Agreement and deliver the required Bonds and insurance certificates within 15 days of the Notice of Award shall be just cause for PRIME CONTRACTOR to annul the Notice of Award and declare the Bid and Bid Security forfeited.
- 13.4 Failure to complete Bid documentation and correct minor irregularities in the Bid within 5 days will be cause for forfeiture.

ARTICLE 14 - CONTRACT TIME

14.1 The number of days for completion of the Phase I Work will be one hundred and twenty (120) days. The completion time for Phase II work will be negotiated at a later date. Provisions for liquidated damages and expenses for failure to complete on time are set forth in the Bid and the Agreement.

ARTICLE 15 - BID PREPARATION

- Submit the Bid on Bid form with Bid Security and other required documents. The bound copy is for BIDDER's records.
- 15.2 Bids shall be carefully prepared in strict accordance with these instructions.
- 15.3 No change shall be made in the wording of the form or in any of the items. Bids should be typed or filled out legibly in ink.
- 15.4 In the case of any discrepancy between unit prices and extended total amounts, unit prices will prevail. If PRIME CONTRACTOR finds any errors in the BIDDER's computations of extended total amounts, PRIME CONTRACTOR reserves the right to make corrections.
- 15.5 All names must be printed or typed below the signature.
- 15.6 The Bid shall contain an acknowledgement of receipt of all Addenda.
- 15.7 Bid by partnership shall be executed in the partnership name and signed by a partner. Partner's title must appear under signature.
- 15.8 Bid submitted by 2 or more firms will be considered as a joint Bid. Each firm shall be responsible for the total amount of the Bid.
- 15.9 Bid by corporation must be executed in the corporate name by a corporate officer accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be listed.

- 15.10 Agreement will be on the basis of material and equipment described in the Contract Documents without consideration of substitute or "or-equal" items. Applications for substitutions will be considered only after the Agreement has been executed.
- 15.11 Fully completed Certifications as listed in ARTICLE 4 of this SECTION must accompany bid.

ARTICLE 16 - SUBMISSION OF BIDS

- 16.1 Bids, and other required documents shall be submitted prior to the time and at the place indicated in the Invitation to Bid.
- 16.2 Submit Bid Documents, properly identified.
- 16.3 If the Bid Documents are sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

ARTICLE 17 - MODIFICATION AND WITHDRAWAL OF BIDS

- 17.1 Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 17.2 If, within 24 hours after Bids are opened, any BIDDER files a duly signed notice with the PRIME CONTRACTOR and promptly thereafter demonstrates to the reasonable satisfaction of the PRIME CONTRACTOR that there was a material and substantial mistake in the preparation of Bid, that BIDDER may withdraw Bid, and Bid Security will be returned by PRIME CONTRACTOR.

ARTICLE 18 - OPENING OF BIDS

18.1 The Bid opening location and time will be as indicated in the Invitation to Bid.

ARTICLE 19 - REJECTION OF BID AND AWARD OF CONTRACT

- 19.1 BIDDER will be required to complete Bid documentation and correct irregularities as a condition of Award. PRIME CONTRACTOR reserves the right to reject any and all Bids and waive any and all irregularities. PRIME CONTRACTOR further reserves the right to accept or reject nonconforming, qualified and conditional Bids.
- 19.2 In evaluating Bids, PRIME CONTRACTOR will consider the qualifications of the BIDDERS, whether or not the Bids comply with the prescribed requirements.
 - PRIME CONTRACTOR may conduct investigations to establish the responsibility, qualifications and financial ability of the BIDDERS and proposed Subcontractors to do the Work within the prescribed time. PRIME CONTRACTOR reserves the right to reject the Bid of any BIDDER who does not pass such evaluation to PRIME CONTRACTOR'S satisfaction.
- 19.3 Contract will be awarded to the low responsible BIDDER whose evaluation indicates to PRIME CONTRACTOR that the award will be in the best interest of PRIME CONTRACTOR.
- 19.4 Prior to the Notice of Award, PRIME CONTRACTOR will notify the apparent low BIDDER if PRIME CONTRACTOR, after due investigation, has reasonable objection to any listed subcontractor or supplier. Failure of PRIME CONTRACTOR to make objection prior to Notice of Award will constitute acceptance but not a waiver of any right of PRIME CONTRACTOR to reject defective work, material or equipment, or material and equipment not in conformance with the requirements of the Contract Documents.
- 19.5 If, prior to the Notice of Award, PRIME CONTRACTOR refuses to accept any Subcontractor, the apparent low BIDDER may:
 - 19.5.1 Submit an acceptable substitute without an increase in Bid Price; or
 - 19.5.2 Withdraw Bid and Bid Security.

- 19.6 If, after Notice of Award, PRIME CONTRACTOR refuses to accept any subcontractor, BIDDER shall submit an acceptable substitute and the Contract Price will be adjusted by the difference in cost occasioned by such substitution.
- 19.7 Concurrently with execution and delivery of Agreement, BIDDER shall deliver to PRIME CONTRACTOR required certificates of insurance as required by the General Conditions.
- 19.8 At least 5 copies of the Agreement and such other documents as required will be signed by PRIME CONTRACTOR and BIDDER within 25 days of the Notice of Award. PRIME CONTRACTOR will sign Agreement within 10 days of receipt of required certificates of insurance, and BIDDER executed Agreement. PRIME CONTRACTOR and BIDDER will each receive an executed copy of the Agreement.

ARTICLE 20 - PROJECT CONFIDENTIALITY

20.1 The SUBCONTRACTOR or SUBCONTRACTOR'S personnel shall not discuss any project related activities or results with anyone other than SUBCONTRACTOR'S or PRIME CONTRACTOR'S personnel. All project related questions shall be referred to the PRIME CONTRACTOR.

This Agreement is dated as of this day	of in the year 19,
between	
called PRIME CONTRACTOR, and	
called SUBCONTRACTOR.	
PRIME CONTRACTOR and SUBCONTRA covenants set forth herein, agree as follows:	CTOR, in consideration of the mutual
ARTICLE 1 - WORK	
1.1 SUBCONTRACTOR shall complete the Contract Documents, generally describe	ne Work as specified or indicated in the d as follows:
Albion-Sheridan Township Landfill	04011 No. 3
Project -	Contract Number
Drilling and Installation of Monitoring Wells	
Work	Number of Addenda

ARTICLE 2 - PRIME CONTRACTOR

2.1 The Work has been designed by the firm of WW Engineering and Science, who is the PRIME CONTRACTOR on the Work.

ARTICLE 3 - CONTRACT TIME

- 3.1 The Phase I work shall be completed in one hundred twenty (120) days and will be the date stipulated in the Notice to Proceed. The Phase II work completion period will be negotiated and established by change order.
- 3.2 PRIME CONTRACTOR and SUBCONTRACTOR recognize that time is of the essence of this Agreement and that PRIME CONTRACTOR will suffer financial loss if the Work is not completed within the time specified plus any extensions as provided for in the General Conditions. They recognize that the financial loss suffered by PRIME CONTRACTOR in the event that SUBCONTRACTOR fails to complete the Work within the Contract Time would be most difficult to determine accurately in any legal or arbitration proceedings. Instead of requiring such proof, PRIME CONTRACTOR and SUBCONTRACTOR agree that as liquidated damages for delay but not as a penalty SUBCONTRACTOR shall pay PRIME CONTRACTOR one thousand (\$1,000) Dollars for each day that expires after the completion date until the Work is complete.
- 3.3 SUBCONTRACTOR agrees to pay, in addition to liquidated damages, expenses arising from failure to complete the Work within the Contract Time including

expenses for engineering services, attorney's fees, technical services and administration costs.

ARTICLE 4 - CONTRACT PRICE

4.1	PRIME CONTRACTOR will pay SUBCONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds as follows:			
	dollars (\$).			

ARTICLE 5-PAYMENT APPLICATIONS

5.1 PRIME CONTRACTOR, with assistance of SUBCONTRACTOR, will prepare partial and final estimates in accordance with the General Conditions.

ARTICLE 6-PAYMENTS

- 6.1 PRIME CONTRACTOR will make partial and final payments in accordance with the GENERAL CONDITIONS.
- 6.2 All monies not paid when due shall bear interest at the rate of 12% per annum.

ARTICLE 7-CONTRACT DOCUMENTS

- 7.1 The complete Contract between PRIME CONTRACTOR and SUBCONTRACTOR consists of the following:
 - 7.1.1 Agreement
 - 7.1.2 Instruction to Bidders
 - 7.1.3 Bid
 - 7.1.4 Notice of Award
 - 7.1.5 General Conditions
 - 7.1.6 Supplemental Conditions
 - 7.1.7 Special Provisions
 - 7.1.8 Specifications
 - 7.1.9 Drawings
 - 7.1.10 Modifications
 - 7.1.11 Addenda (numbers ___ thru ___ inclusive)
 - 7.1.12 Required Certifications

ARTICLE 8-MISCELLANEOUS

8.1 Terms used in this Agreement are defined in the General Conditions.

- 8.2 Neither party shall assign or sublet, in whole or in part, any of its rights or obligations, including any monies due, or to become due, under the terms of the Contract Documents without the prior consent of the other party. This paragraph shall not be construed to limit the powers vested in the PRIME CONTRACTOR under the General Conditions.
- 8.3 The PRIME CONTRACTOR and SUBCONTRACTOR each binds itself, successors, assigns and legal representatives to the other party hereto in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- 8.4 The Contract Documents may only be altered, amended, or repealed by a Modification.

ARTICLE 9-CORPORATE CERTIFICATE AND SEAL

9.1 SUBCONTRACTOR, if a corporation, shall cause the following certificate to be executed. The same officer shall not execute this Agreement and the certificates unless only one person occupies all corporate offices.

CORPORATE CERTIFICATE

I,	, certify that I am the	of the
corporation named as SI	UBCONTRACTOR herein; that	, who
signed this Agreement	on behalf of SUBCONTRACTOR, was	then
of the	corporation; that the Contract was duly s	sianed and the
corporate seal affixed for	or, and in behalf of, said corporation by a ithin the scope of its corporate powers.	•

ARTICLE 10-SIGNATURES

10.1 IN TESTIMONY WHEREOF, the parties hereto have executed this contract in at least 3 counterparts, each of which shall be deemed an original, the day and year first above written.

	SUBCONTRACTOR
WITNESS	•
	(Subcontractor)
	Ву
	(Signature)
	Title
	PRIME CONTRACTOR
MITTALE CO.	
WITNESS	(Prime Contractor)
	,
•	By
	(Signature)
	Title
APPROVED AS TO FORM:	
AFFROVED AS TO FORM:	
PRIME CONTRACTOR's Attorney	

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

Act of God -

Unpredictable phenomenon of nature such as earthquake, flood or cyclone.

Addenda -

Additional provisions, changes or clarifications of the Subcontract Documents issued prior to the receipt of bids.

AGENCY -

The U.S. Environmental Protection Agency, or may also be identified as "EPA", "U.S. EPA" or "Government".

Agreement -

An instrument, signed by PRIME CONTRACTOR and SUBCONTRACTOR covering the Work to be performed.

Bid -

The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the Work to be performed.

Bid Documents -

The Bid and required additional documents to be submitted with the Bid.

Bidder -

Any person, firm, joint venture or corporation submitting a Bid for the Work.

Bid Security -

The Bid Bond, certified check, cashier's check or other form of bid security furnished by the SUBCONTRACTOR.

Bonds -

Bid, performance and payment bond and other instruments of security furnished by SUBCONTRACTOR.

Bulletin -

A document issued by PRIME CONTRACTOR which clarifies and interprets the Contract Documents and may initiate Change Orders.

Cash Allowance -

A fixed sum stipulated in the Contract Documents for a specific service, product or group of products. All cash allowances shall be included in the Contract Price.

Certification of Completion -

Notice from PRIME CONTRACTOR to AGENCY that the Work has been completed and establishing a one year bonded correction period.

Change Order -

An order to SUBCONTRACTOR signed by PRIME CONTRACTOR authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time or both, issued after execution of the Agreement.

Construction Schedule -

The timetable outline of SUBCONTRACTOR's sequence of operations.

Contract -

The Addenda, Agreement, General and Supplementary Conditions, Special Provisions, SUBCONTRACTOR's Bid Documents, post-Bid documentation submitted prior to the Notice of Award, Invitation to Bid, Instructions to Bidders, Bonds, Insurances, Notice to Proceed, Specifications, Drawings, Modifications.

Contract Price -

The total moneys payable to SUBCONTRACTOR for the Work.

Contract Time -

The stated date or number of days for the completion of the Work.

Day -

Calendar day of 24 hours from midnight to the next midnight.

Defective Work -

Work that does not conform to the requirements of the Contract Documents and damaged work.

Drawings -

The Drawings which show the character and scope of the Work to be performed, prepared or approved by PRIME CONTRACTOR.

Effective Date of Contract -

The date shown on the Agreement.

General Requirements -

The Sections of SECTION 01010 - Summary of Work of the Project Specifications.

Health and Safety Program -

The SUBCONTRACTOR's written program which describes the procedures that will assure compliance with local, state, and federal ordinances, rules, regulations, and guidelines concerning occupational health and safety for SUBCONTRACTOR's employees working at the project site.

Insurance Certificate -

The document issued by SUBCONTRACTOR's insurer listing policies and extent of coverage applicable to the Work by SUBCONTRACTOR.

Liens -

Claims, security interests, and encumbrances.

Lower Tier Subcontractor -

An individual, firm, joint venture or corporation having a direct contract with SUBCONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

Modification -

(a) An amendment of the Contract Documents signed by both parties, (b) a Change Order, or (c) Bulletin. A Modification may only be issued after the effective date of the Agreement.

Notice -

A communication between the parties specifically called for by the Contract Documents.

Notice of Award -

The Notice by PRIME CONTRACTOR to BIDDER that BIDDER has been awarded the Contract.

Notice of Termination -

Notice from PRIME CONTRACTOR to SUBCONTRACTOR terminating services of the SUBCONTRACTOR.

Notice to Proceed -

A Notice by PRIME CONTRACTOR to SUBCONTRACTOR fixing the date on which the Contract Time will commence and on which SUBCONTRACTOR shall start the Work.

Partial Completion -

For the Work that is being constructed in phases, Partial Completion is substantial completion of a defined portion of the Work. Partial Completion is reached whenever the defined portion of the Work is ready for use. To be considered partially complete, use must not be prevented by other activities of SUBCONTRACTOR. When use is delayed by factors that are beyond SUBCONTRACTOR's control, the designated portion of the Work shall be considered partially complete.

Partial Utilization:

Partial Utilization is placing a portion of the Work or facility in service for the purpose for which it was intended or for a related use before reaching Partial Completion.

Planholders of Record -

Parties recorded by PRIME CONTRACTOR as having received a copy of Contract Documents and a separate set of Bid Documents.

PRIME CONTRACTOR -

The firm of WW Engineering & Science, Inc., or any of its subsidiaries.

Prime Contract -

The contract between the PRIME CONTRACTOR and the U.S. EPA, Contract No. 68-W8-0079.

Product -

Materials, systems, and equipment incorporated in the Work.

Product Data -

Catalog data, illustrations, standard schedules, performance charts, instructions, and other information prepared by manufacturer or supplier.

Project -

The entire scope of the Work identified in this Agreement.

Project Manual -

The volume or volumes containing the bidding information, schedules, equipment uses, page-size details, and the Contract Documents for the Work except large drawings and modifications.

Provide -

Furnish and install.

PRIME CONTRACTOR Project Representative -

The authorized representative of PRIME CONTRACTOR at the project site or any part thereof.

Shop Drawings -

All drawings, diagrams, illustrations, schedules and other data specifically prepared by SUBCONTRACTOR, a lower tier Subcontractor, manufacturer, fabricator, supplier or distributor to illustrate the equipment, material or some portion of the Work.

Site Safety Plan -

The document which describes the potential hazards at the project site, the required levels of protection for persons working at the project site, and the operational constraints at or near the project site. Also known as the Health and Safety Plan.

Schedule of Values -

The breakdown of Bid into component parts aggregating the Contract Price.

Specifications -

Those portions of the Contract Documents consisting of technical descriptions of materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative details applicable thereto, including specifically all Sections contained therein.

SUBCONTRACTOR -

The person, firm or corporation with whom PRIME CONTRACTOR has executed the Contract.

SUBCONTRACTOR's Affidavit of Completion -

The SUBCONTRACTOR's affidavit that the Work has been completed according to Contract Documents and that labor and material men have been paid.

Supplier -

Firm providing products to SUBCONTRACTOR.

Work -

The entire completed construction and the various separately identified parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating products into the construction as required by the Contract Documents.

<u>ARTICLE 2 - PRELIMINARY MATTERS</u>

SUBCONTRACTOR'S REPRESENTATION:

2.1 By executing the Agreement, SUBCONTRACTOR reaffirms that he has visited the site and assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, Work, locality, local conditions and availability of manpower, materials and machinery that may in any manner affect the Work to be done.

ARTICLE 3 - CONTRACT DOCUMENTS INTENT AND REUSE INTENT:

- 3.1 All communications between the AGENCY, SUBCONTRACTOR and PRIME CONTRACTOR intended to affect or modify any of the terms or obligations contained in the Contract Documents shall be in writing in order to be valid.
- 3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. In resolving conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Modification, Addenda, Supplementary Conditions, Instructions to Bidders, General Conditions, Special Provisions, Specifications and Drawings. Detailed drawings shall govern over general Drawings. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which, so applied, have a well-known technical or trade meaning shall be deemed to refer to such recognized standards or meanings.
- 3.3 The Contract Documents shall be governed by the law of the State of Michigan.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; REFERENCE POINTS

GENERAL:

4.1 The SUBCONTRACTOR shall be responsible for obtaining all necessary State of Michigan, Calhoun County, or other local highway or road permits. Under provisions of the Prime Contract, the AGENCY shall obtain all necessary rights of way, land easements and any other interest in land necessary to complete the Work. The PRIME CONTRACTOR will notify SUBCONTRACTOR of site access when it is available, but PRIME CONTRACTOR has no other responsibility or liability to SUBCONTRACTOR or any lower tier Subcontractor for site access or any delays relating to site access.

UNFORESEEN SUBSURFACE CONDITIONS:

4.2 The underground conditions indicated in the Contract Documents represent the best information available at the time of Drawing preparation and is not guaranteed. SUBCONTRACTOR shall promptly notify PRIME CONTRACTOR in writing of any subsurface or latent physical conditions at the site differing materially from those indicated in the

Contract Documents. PRIME CONTRACTOR will promptly investigate those conditions. If PRIME CONTRACTOR finds that the results of such surveys or tests indicate subsurface or latent physical conditions differing significantly from those indicated in the Contract documents, a Change Order will be issued incorporating the necessary revisions.

ARTICLE 5 - INSURANCE

INSURANCE REQUIREMENTS:

- 5.1 SUBCONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance from an insurance company authorized to write casualty insurance in the state where the work is located as shall provide protection from claims which may arise out of, or result from, SUBCONTRACTOR's performance of the Work and SUBCONTRACTOR's other obligations under the Contract Documents, whether such performance is by SUBCONTRACTOR, by any lower tier Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.
 - 5.1.1 Certificates of insurance shall contain a provision that coverage afforded under the policies shall not be cancelled or materially changed until at least 10 days prior written notice has been given to the PRIME CONTRACTOR. Sufficient certificates of insurance or certified copies of policies shall be submitted for inclusion in each of the executed Contract Documents.
- 5.2 This insurance shall be written for the following minimum limits of liability and shall have an endorsement covering all the SUBCONTRACTOR's contractual obligations.
 - 5.2.1 Workman's Compensation and occupational disease insurance in amounts to satisfy State law.
 - 5.2.2 Public Liability, Bodily Injury and Property Damages:

Injury or death of one person	\$ 500,000	
Injury to more than one person in a single accident	\$1,000,000	
Property damage, each accident	\$ 500,000	
Property damage, aggregate operation	\$1,000,000	

The comprehensive general liability insurance shall include completed operations insurance. Where the project includes underground construction, the policy shall specifically provide a statement that it includes underground hazards, collapse and explosion.

5.2.3 Automobile and Truck Liability, Bodily Injury and Property Damages:

Injury or death of one person

\$ 250,000

Injury to more than one person

in a single accident

\$ 500,000

Property Damage, each accident

\$ 100,000

5.2.4 Umbrella (Extended Risk) Policy:

The umbrella policy shall include coverage at least as broad as the primary or underlying policies and shall apply to both General Liability and Automobile Liability Insurance.

Umbrella Policy

\$2,000,000

ARTICLE 6 - SUBCONTRACTOR'S RESPONSIBILITIES

GENERAL:

- 6.1 SUBCONTRACTOR will issue communications relative to the Work to PRIME CONTRACTOR.
- 6.2 SUBCONTRACTOR shall supervise the Work efficiently and with skill and attention. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. SUBCONTRACTOR shall be responsible for accurate compliance of the finished Work with the Contract Documents.
- 6.3 All materials, and products shall be of good quality and new. When required by PRIME CONTRACTOR, SUBCONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and installed equipment.
- 6.4 SUBCONTRACTOR shall be fully responsible for all acts and omissions of his lower tier Subcontractors and of persons directly or indirectly employed by them and persons for whose acts any of them may be liable

- to the same extent that SUBCONTRACTOR is responsible for the acts and omissions of persons directly employed by SUBCONTRACTOR.
- 6.5 All Work performed for SUBCONTRACTOR by a lower tier Subcontractor shall be pursuant to an appropriate agreement between SUBCONTRACTOR and the lower tier Subcontractor which specifically binds the lower tier Subcontractor to the applicable terms and conditions of the Contract Documents.

PATENT FEES AND ROYALTIES:

6.6 SUBCONTRACTOR shall pay all license fees, royalties and costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights in connections with the Work.

INDEMNIFICATION:

- 6.7 SUBCONTRACTOR shall indemnify and hold harmless AGENCY and PRIME CONTRACTOR, their agents and employees, from and against all liability claims, damages, losses and expenses arising out of, or resulting from, the negligent performance of the Work, provided that any such claim, damage, loss or expense:
 - 6.7.1 Is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of, tangible property, and
 - 6.7.2 Is caused by any negligent act or omission of SUBCONTRACTOR, and lower tier Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.
- 6.8 In all claims against AGENCY or PRIME CONTRACTOR or their agents or employees by any employee of SUBCONTRACTOR or lower tier Subcontractors, or anyone for whose acts AGENCY or PRIME CONTRACTOR may be liable, the indemnification obligation shall not be limited by the amount or type of damages, compensation or benefits under Workman's compensation acts, disability benefit acts, or other employee benefit acts.
- 6.9 In the event that any part of the indemnification obligation of SUBCONTRACTOR is declared illegal or unenforceable under existing or future law, it is the intention of SUBCONTRACTOR that such part shall be severed from the remainder of these General Conditions and that the remaining indemnification obligation of SUBCONTRACTOR be enforced to the maximum extent permitted by law.

SAFETY AND PROTECTION:

- 6.10 In accordance with the PRIME CONTRACTOR's Health and Safety Plan (also referred to as Site Safety Plan) all personnel, including all SUBCONTRACTOR personnel and lower tier Subcontractor personnel, that perform on-site work must have successfully completed the 40 hour health and safety training, and 8 hour/year refresher course as outlined in 29 CFR Part 1910.120 and all on-site work must be done in accordance with the procedures contained in the Health and Safety Plan which is attached to and made part of this Agreement.
- 6.11 In accordance with the SUBCONTRACTOR'S Health and Safety Program, SUBCONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 6.11.1 all SUBCONTRACTOR employees on the Work and other persons who may be affected thereby;
 - 6.11.2 all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and
 - 6.11.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 6.12 SUBCONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damages, injury or loss. SUBCONTRACTOR shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, and in addition SUBCONTRACTOR shall comply with all applicable requirement of the U.S. Department of Labor Occupational Safety and Health Act, any equivalent state law, and all other applicable federal, state, county, and local laws, ordinances, codes, and regulations. SUBCONTRACTOR understands that the nature of the work to be performed under this agreement is potentially hazardous and he shall read, understand, and fully comply with the Health and Safety Plan provided by the PRIME CONTRACTOR and which is attached to and made part of this Agreement.

6.13 SUBCONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be SUBCONTRACTOR's superintendent unless otherwise designated by SUBCONTRACTOR.

EMERGENCIES:

6.14 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, SUBCONTRACTOR, without special instruction or authorization from PRIME CONTRACTOR, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He shall give PRIME CONTRACTOR prompt written notice of any potential significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order may thereupon be issued in the discretion of the PRIME CONTRACTOR covering the changes and deviations involved.

MEDICAL AND SAFETY TRAINING CERTIFICATION:

6.15 SUBCONTRACTOR shall provide to PRIME CONTRACTOR a certification for each employee assigned to the project site that said employee participates in an annual medical monitoring program and has been medically certified by a physician for this work, including the use of a full face respirator, and has been trained for work in environments with known or unknown hazardous wastes. This certification must be provided before an employee can enter the job site.

ARTICLE 7 - WORK BY OTHERS

7.1 AGENCY and PRIME CONTRACTOR may perform additional work related to the Project by themselves, or by direct contracts with others. SUBCONTRACTOR shall also carefully coordinate and cooperate with AGENCY and PRIME CONTRACTOR and other SUBCONTRACTOR's.

ARTICLE 8 - PRIME CONTRACTOR'S STATUS DURING CONSTRUCTION

VISITS TO SITE:

8.1 AGENCY, PRIME CONTRACTOR or others authorized by PRIME CONTRACTOR, will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. PRIME CONTRACTOR will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

CLARIFICATIONS AND INTERPRETATIONS:

8.2 PRIME CONTRACTOR may issue clarifications or interpretations consistent with, or reasonably inferable from, the intent of the Contract Documents.

REJECTING DEFECTIVE WORK:

- 8.3 PRIME CONTRACTOR will have the authority to disapprove of or reject defective work.
- 8.4 PRIME CONTRACTOR shall not be responsible for the construction means, methods, techniques, sequences or procedures, or the Health and Safety Program incident thereto, and PRIME CONTRACTOR shall not be responsible for the SUBCONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.
- 8.5 PRIME CONTRACTOR shall not be responsible for the acts, errors or omissions of the SUBCONTRACTOR, or any lower tier Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

DECISIONS ON DISAGREEMENT:

- 8.6 PRIME CONTRACTOR will be initial interpreter of the requirements of Contract Documents and judge of acceptability of Work thereunder. Claims, disputes, and other matters pertaining to execution and progress of Work shall be referred initially to PRIME CONTRACTOR with a request for a formal decision.
- 8.7 The rendering of a decision by PRIME CONTRACTOR with respect to any such claim, dispute or other matter, will be a condition precedent to arbitration. The PRIME CONTRACTOR'S decision shall become final and binding on the parties unless an arbitration request is filed within 30 days after the decision is rendered.

LIMITATIONS ON PRIME CONTRACTOR'S RESPONSIBILITIES:

8.8 Neither PRIME CONTRACTOR'S authority to act under this Article 8 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty, liability or responsibility of PRIME CONTRACTOR to SUBCONTRACTOR, any lower tier Subcontractor, any of their agents or employees or any other person performing any of the Work.

ARTICLE 9 - CHANGES IN THE WORK

- 9.1 Without invalidating the agreement, PRIME CONTRACTOR may, at any time, and for any reason, including changes in the Prime Contract made at the request of the AGENCY, order additions, deletions or revision in Work by Change Orders. Upon receipt of a Change Order, SUBCONTRACTOR shall proceed with the Work involved.
- 9.2 PRIME CONTRACTOR may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents.

ARTICLE 10 - CHANGE OF CONTRACT PRICE

10.1 The Contract Price may be changed only by a Change Order.

ARTICLE 11 - CHANGE OF THE CONTRACT TIME

- 11.1 The Contract Time may only be changed by a Change Order. Any claim for an extension of Contract Time shall be delivered to PRIME CONTRACTOR within fifteen (15) days of the event giving rise to the claim. Adjustment, if any, in the Contract Time will be determined by PRIME CONTRACTOR.
- 11.2 The Contract Time will be extended in an amount equal to time lost due to unreasonable time delays beyond the control and without the fault or negligence of SUBCONTRACTOR. Such delays shall be restricted to: acts of neglect by PRIME CONTRACTOR, fires, labor disputes, epidemics, abnormal weather conditions, or Acts of God.

ARTICLE 12 - WARRANTY AND GUARANTEE: TESTS AND INSPECTIONS: CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

WARRANTY AND GUARANTEE:

12.1 SUBCONTRACTOR warrants and guarantees to PRIME CONTRACTOR that all materials and equipment shall be new and that all Work shall be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents. All Work not conforming to the requirements of the Contract Documents shall be considered Defective Work.

TESTS AND INSPECTIONS:

- If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to be approved someone inspected. tested. bv other than give SUBCONTRACTOR, SUBCONTRACTOR shall CONTRACTOR timely notice of readiness therefore. All such tests shall be in accordance with the methods prescribed by the applicable organization or Contract Documents. All certification fees, testing laboratory fees, and inspection fees of said public authorities will be paid by PRIME CONTRACTOR.
- 12.3 PRIME CONTRACTOR, his representatives, and representatives of AGENCY shall at all times have access to the Work. SUBCONTRACTOR shall provide proper facilities for access, observation of the Work, and for any inspection or testing by others.

CORRECTION OR REMOVAL OF DEFECTIVE WORK:

12.4 SUBCONTRACTOR shall promptly, as specified by PRIME CONTRACTOR, either correct any Defective Work or remove it from the site and replace it with nondefective work. If SUBCONTRACTOR does not correct or remove and replace such Defective Work within a reasonable time, PRIME CONTRACTOR may have the deficiency corrected or the rejected work removed and replaced by others. All direct and indirect costs of such correction or removal, and replacement including compensation for additional PRIME CONTRACTOR'S services, shall be paid by SUBCONTRACTOR. SUBCONTRACTOR shall also repair all work of others destroyed or damaged by replacement of his Defective Work.

ONE YEAR CORRECTION PERIOD:

12.5 If, prior to the expiration of one year after the date of Certification of Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be Defective Work, SUBCONTRACTOR shall promptly correct such Defective Work or remove it from the site and replace it with non-defective Work, in accordance with Section 12.4.

ARTICLE 13 - PAYMENTS AND COMPLETION

13.1 SUBCONTRACTOR shall submit invoices to PRIME CONTRACTOR on a monthly basis for work completed during the previous month. Such

- invoices shall be submitted within ten (10) days of the close of each monthly reporting period. Each invoice must be broken down by unit prices and quantities of work accomplished during the previous month. Invoices that are not complete will be rejected and returned for revision prior to processing. All invoices deemed complete will be processed for payment. If specific costs in the invoice are questioned or need further documentation, only those questioned items will be withheld while the remainder of the invoice is processed for payment.
- 13.2 It is the payment policy of PRIME CONTRACTOR to reimburse SUBCONTRACTOR for approved invoices or partial invoices, within thirty (30) working days, after receiving the invoice from the SUBCONTRACTOR. For the purposes of this agreement, "invoice payment" shall be considered as being made on the day a check is dated. Interest will be paid on any amounts not paid in accordance with this policy at a rate of 1% per month commencing with the final date payment is due.
- 13.3 Final payment for each work task assignment will not be made until all final reports and supporting data have been delivered to and accepted by PRIME CONTRACTOR. The amount withheld for this final payment will not exceed 5% of the total cost of the authorized work task.
- 13.4 Monthly progress payments will be approximately 90% of the Work completed, less the total of previous payments. After construction is 50% complete, and provided SUBCONTRACTOR'S progress is in accordance with the approved construction schedule, PRIME CONTRACTOR will increase the percentage of progress payments to 95% of the Work completed less the total of previous payments.
- 13.5 PRIME CONTRACTOR may refuse to recommend any payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary to protect PRIME CONTRACTOR from loss because:
 - 13.5.1 The Work is Defective Work or completed Work has been damaged requiring correction or replacement.
 - 13.5.2 Claims have been filed or there is reasonable evidence indicating the probable filing thereof.
 - 13.5.3 The Contract Price has been reduced by a Change Order.

- 13.5.4 SUBCONTRACTOR has been required to correct Defective Work or complete neglected work.
- 13.5.5 Unsatisfactory prosecution of the Work, including failure to clean up project site.

FINAL PAYMENT:

13.6 After SUBCONTRACTOR has remedied all defects and delivered all documents required by the Contract Documents, PRIME CONTRACTOR will prepare the final payment. SUBCONTRACTOR shall furnish an affidavit that labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the PRIME CONTRACTOR and AGENCY or his property might in any way be responsible, have been paid or otherwise satisfied and at the discretion of the PRIME CONTRACTOR, lien waivers from all lower tier Subcontractors. If payment bond is required under this Agreement, consent of the surety is required before final payment will be made.

SUBCONTRACTOR'S CONTINUING OBLIGATION:

13.7 The duties and obligations imposed on SUBCONTRACTOR by these General Conditions, and the rights and remedies available hereunder, and the rights and remedies available to AGENCY and PRIME CONTRACTOR thereunder, shall be in addition to, and not a limitation of, any otherwise imposed or available by law, by special guarantee, or other provisions of the Contract Documents.

WAIVER OF CLAIMS:

- 13.8 The making and acceptance of final payment shall constitute:
 - 13.8.1 A waiver of all claims by SUBCONTRACTOR against PRIME CONTRACTOR, except those claims under negotiation or in arbitration.
- 13.9 SUBCONTRACTOR's refusal to accept the final payment as tendered by PRIME CONTRACTOR shall constitute a waiver of any right to interest thereon.

LIQUIDATED DAMAGES:

13.10 PRIME CONTRACTOR will invoice SUBCONTRACTOR the amount of the liquidated damages and expenses assessed. If the amounts due are not

paid, the PRIME CONTRACTOR will deduct the amount of any moneys due or to become due SUBCONTRACTOR.

ARTICLE 14 - SUSPENSION OF WORK AND TERMINATION

- 14.1 PRIME CONTRACTOR may terminate if SUBCONTRACTOR:
 - 14.1.1 (a) Makes a general assignment for the benefit of his creditors, or (b) a trustee or receiver is appointed for SUBCONTRACTOR or for any of his property, or (c) files a petition to take advantage of any debtor's act, or to reorganize under bankruptcy or similar laws; or
 - 14.1.2 Repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; or
 - 14.1.3 Repeatedly fails to make prompt payments to the lower tier Subcontractors or for labor, materials and equipment; or
 - 14.1.4 Disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction; or
 - 14.1.5 Disregards the authority of PRIME CONTRACTOR, or otherwise violates substantial provisions of the Contract Documents.
- 14.2 Then PRIME CONTRACTOR may, without prejudice to any other right or remedy and after giving SUBCONTRACTOR and his surety 10 days' written notice, terminate the services of SUBCONTRACTOR. PRIME CONTRACTOR shall have the absolute right to complete the Work in the most expeditious manner, regardless of cost.
- 14.3 If the surety does not resume performance of the Work within 10 days, AGENCY may take possession of the Work and of all materials, equipment and machinery thereon owned by SUBCONTRACTOR, and finish the Work. SUBCONTRACTOR shall receive no further payment until the Work is finished.
- 14.4 The PRIME CONTRACTOR may order the SUBCONTRACTOR in writing to suspend, delay, or interrupt all or part of the work at any time and for any period of time for the convenience of the PRIME CONTRACTOR or AGENCY.

SUBCONTRACTOR'S CONTINUING WORK DURING DISPUTES:

14.5 SUBCONTRACTOR shall carry on the Work and maintain the Construction Schedule during all disputes or disagreements with PRIME CONTRACTOR. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as SUBCONTRACTOR and PRIME CONTRACTOR may otherwise agree.

ARTICLE 15 - ARBITRATION

15.1 In the event that a claim, dispute or other question arises relating to the Contract Documents, except claims which have been waived by the making or acceptance of final payment, PRIME CONTRACTOR and SUBCONTRACTOR may, by mutual agreement, submit the claim, dispute or matter to arbitration.

1.01 LAWS AND REGULATIONS:

- A. Notice and Compliance: All laws, ordinances, rules and regulations which are applicable to the Work.
- B. Variance: When the specifications are in variance to the laws and regulations, the SUBCONTRACTOR shall promptly serve written notice to the PRIME CONTRACTOR. Any alterations will be made by modification.
- C. When work is performed contrary to laws and regulations, without notice to the PRIME CONTRACTOR, all costs will be borne by the SUBCONTRACTOR.

1.02 PERMITS:

A. Any permits and licenses necessary for the work shall be obtained by the SUBCONTRACTOR.

1.03 TAXES:

A. Sales, consumer, use and other similar taxes required for the work shall be paid by the SUBCONTRACTOR.

1.04 LABOR, MATERIALS, AND EQUIPMENT:

- A. SUBCONTRACTOR shall provide competent, suitable qualified personnel to lay out the work and perform construction as required by the contract Documents. He shall at all times maintain good discipline and order at the site. PRIME CONTRACTOR may judge the competency and qualifications of personnel and, upon his written request to the SUBCONTRACTOR, cause the immediate dismissal from the Work of any incompetent and unqualified personnel.
- B. SUBCONTRACTOR shall guarantee that he has available the quantities and quality of labor and supervising necessary to fulfill the contractual obligations beyond any union manpower pool.

- C. SUBCONTRACTOR shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, water, and all other facilities and incidentals necessary for the execution, testing initial operation, and completion of the Work.
- D. SUBCONTRACTOR shall provide personnel who have been safety trained in accordance with OSHA regulations as described in 29CFR1910.120. PRIME CONTRACTOR shall provide a Site Safety Plan by which SUBCONTRACTOR's personnel will abide. PRIME CONTRACTOR will provide a Site Safety Coordinator to monitor for the presence of potentially hazardous materials and advise the SUBCONTRACTOR of appropriate personal protection required based upon the provisions in the Site Safety Plan.

1.05 ALLOWANCES:

A. SUBCONTRACTOR shall include all cash allowances so named in the Contract Documents. Upon final payment, allowances will be adjusted, based upon delivered material and equipment invoices of the specific allowance items. All other increased or extra costs will not be allowed.

SECTION I - SPECIAL PROVISIONS

Table of Contents

I.1	Organizational Conflicts of Interest
1.2	Screening Business Information for Claims of Confidentiality
1.3	Treatment of Confidential Business Information
I.4	Limitation on Future contracting
I.5	Health and Safety
I.6	Training
I.7	Technical Data
1.8	Future Expert Consulting Services
I.9	Notification of Conflict of Interest Regarding Personnel
I.10	Project Employee Confidentiality Agreement
I.11	Expert Testimony
I.12	Second Tier Subcontractor or Consultant Selection Procedures
I.13	Competition in Subcontracting
I.14	Special Patent Reporting Requirements
I.15	Restrictions on Subcontractor Sales to the Government
I.16	Anti-Kickback Procedures
I.17	Examination of Records by Comptroller General
I.18	Audit-Negotiation
I.19	Price Reduction for Defective Cost or Pricing Data
1.20	Subcontractor Cost or Pricing Data
I.21	Subcontractor Cost of Pricing Data - Modifications
1.22	Utilization of Small Business Concerns and Small Disadvantaged Business Concerns
I.23	Utilization of Women-Owned Small Businesses
1.24	Utilization of Labor Surplus Area Concerns
I.25	Equal Opportunity
I.26	Affirmative Action for Special Disabled and Vietnam Era Veterans
1.27	Employment Records on Special Disabled Veterans and Veterans of the Vietnan

- I.28 Affirmative Action for Handicapped Workers
- I.29 Clean Air and Water
- I.30 Hazardous Material Identification and Material Safety Data
- I.31 Authorization and Consent
- I.32 Notice and Assistance Regarding Patent and Copyright Infringement
- I.33 Limitation of Liability Services
- I.34 Excusable Delays
- I.35 Publicity
- I.36 Additional Data Requirements
- I.37 Rights In Data Special Works
- I.38 Convict Labor
- I.39 Notice to the Government of Labor Disputes
- I.40 Disputes
- I.41 Termination

SECTION I - SPECIAL PROVISIONS

I.1 Organizational Conflicts of Interest

- (a) The SUBCONTRACTOR warrants that, to the best of it's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as defined in FAR Subpart 9.5, or that the SUBCONTRACTOR has disclosed all such relevant information.
- (b) The SUBCONTRACTOR agrees that if an actual or potential organizational conflict of interest is discovered the SUBCONTRACTOR will make a full disclosure in writing to the PRIME CONTRACTOR Program Manager. This disclosure shall include a description of actions which the SUBCONTRACTOR has taken or proposes to take, after consultation with the PRIME CONTRACTOR Program Manager, to avoid, mitigate, or neutralize the actual or potential conflict.
- (c) Remedies PRIME CONTRACTOR may terminate this Agreement for convenience, in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the SUBCONTRACTOR was aware of a potential organizational conflict of interest prior to execution of this Agreement or discovered an actual or potential conflict after execution of this Agreement and did not disclose or misrepresented relevant information to the PRIME CONTRACTOR Program Manager, PRIME CONTRACTOR may terminate the Agreement for default, or PRIME CONTRACTOR pursue such other remedies as may be permitted by law or this Agreement. Likewise, if PRIME CONTRACTOR terminates this Agreement, it has the right to recovery of any damages from SUBCONTRACTOR that may have resulted from this termination.
- (d) The SUBCONTRACTOR further agrees to insert in any second tier subcontract or consultant agreement hereunder, provisions which shall conform substantially to the language of this clause, including this paragraph (d).

I.2 Screening Business Information for Claims of Confidentiality

- (a) Whenever collecting information under this Agreement, the SUBCONTRACTOR agrees to comply with the following requirements:
- (1) If the SUBCONTRACTOR collects information from public sources, such as books, reports, journals, periodicals, public records, or other sources that are available to the public without restriction, the SUBCONTRACTOR shall submit a list of these sources to the PRIME CONTRACTOR Program Management Office at the time the information is initially submitted to PRIME

CONTRACTOR. The SUBCONTRACTOR shall identify the information according to source.

- (2) If the SUBCONTRACTOR collects information from a State or local Government or from a Federal agency, the SUBCONTRACTOR shall submit a list of these sources to the PRIME CONTRACTOR Program Management Office at the time the information is initially submitted to the PRIME CONTRACTOR. The SUBCONTRACTOR shall identify the information according to source.
- (3) If the SUBCONTRACTOR collects information directly from a business or from a source that represents a business or businesses, such as a trade association:
 - (i) Before asking for the information, the SUBCONTRACTOR shall identify itself, explain that it is performing contractual work for a prime contractor to the Environmental Protection Agency, identify the information that it is seeking to collect, explain what will be done with the information, and give the following notice:
 - (A) You may, if you desire, assert a business confidentiality claim covering part or all of the information. If you do assert a claim, the information will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2, Subpart B.
 - (B) If no such claim is made at the time this information is received by the SUBCONTRACTOR, it may be made available to the public by the Environmental Protection Agency without further notice to you.
 - (C) The SUBCONTRACTOR shall, in accordance with FAR Part 9, execute a written agreement regarding the limitations of the use of this information and forward a copy of the agreement to the PRIME CONTRACTOR Program Manager who in turn will forward it to the EPA Contracting Officer.
 - (ii) Upon receiving the information, the SUBCONTRACTOR shall make a written notation that the notice set out above was given to the source, by whom, in what form, and on what date.
 - (iii) At the time the SUBCONTRACTOR initially submits the information to the PRIME CONTRACTOR Program Management Office, the SUBCONTRACTOR shall submit a list of these sources, identify the information according to source, and indicate whether the source made any confidentiality claim and the nature and extent of the claim.

- (b) The SUBCONTRACTOR shall keep all information collected from nonpublic sources confidential in accordance with the clause in this Agreement entitled "Treatment of Confidential Business Information" as if it had been furnished to the SUBCONTRACTOR by EPA.
- (c) The SUBCONTRACTOR agrees to obtain the written consent of the PRIME CONTRACTOR Program Manager, after a written determination by the Program Management Office, prior to entering into any second tier subcontract or consultant agreement that will require the subcontractor or consultant to collect information. The SUBCONTRACTOR agrees to include this clause, including this paragraph (c), and the clause entitled "Treatment of Confidential Business Information" in all second tier subcontracts or consultant agreements awarded pursuant to this Agreement that require the consultant collect information.

I.3 Treatment of Confidential Business Information

- (a) The PRIME CONTRACTOR Program Manager, after a written determination by the EPA Contracting Office may disclose confidential business information to the SUBCONTRACTOR necessary to carry out the Work required under this Agreement. The SUBCONTRACTOR agrees to use the confidential information only under the following conditions:
- (1) The SUBCONTRACTOR and SUBCONTRACTOR's employees shall: (i) use the confidential information only for the purposes of carrying out the Work required by this Agreement; (ii) not disclose the information to anyone other than PRIME CONTRACTOR or EPA employees without the prior written approval of the Assistant General Counsel for Contracts and Information Law; and (iii) return to the PRIME CONTRACTOR Program Manager and then to the Contracting Officer all copies of the information, and any abstracts or excerpts therefrom, upon request by the PRIME CONTRACTOR Program Manager, whenever the information is no longer required by the SUBCONTRACTOR for the performance of the Work required under this agreement, or upon completion of the Work under this Agreement.
- (2) The SUBCONTRACTOR, using PRIME CONTRACTOR's Confidentiality Form, shall obtain a written agreement to honor the above limitations from each of the SUBCONTRACTOR's employees who will have access to the information before the employee is allowed access.
- (3) The SUBCONTRACTOR agrees that these agreement conditions concerning the use and disclosure of confidential information are included for the benefit of,

and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

- (4) The SUBCONTRACTOR shall not use any confidential information supplied by PRIME CONTRACTOR or EPA or obtained during performance hereunder to compete with any business to which the confidential information relates.
- (b) The SUBCONTRACTOR agrees to obtain the written consent of the PRIME CONTRACTOR Program Manager, after a written determination by the Contracting Officer, prior to entering into any second tier subcontract or consultant agreement that will involve the disclosure of confidential business information by the SUBCONTRACTOR to the second tier subcontractor or consultant. The SUBCONTRACTOR agrees to include this clause, including this paragraph (b), in all second tier subcontracts or consultant agreements awarded, pursuant to this Agreement, that require the furnishing of confidential business information to a second tier subcontractor or consultant.

I.4 Limitation on Future Contracting

Due to the scope and nature of this Agreement, the SUBCONTRACTOR shall observe the following restrictions on future hazardous waste site contracting for the duration of the Agreement or as otherwise specified:

- (1) The SUBCONTRACTOR will be ineligible to compete for remedial action projects for which the SUBCONTRACTOR has developed or contributed to the solicitation package.
- (2) The SUBCONTRACTOR, for a period of three (3) years after the completion of the Work under this Agreement, agrees not to compete for or to represent a private party on any work pertaining to a specific site at which the SUBCONTRACTOR previously performed for the PRIME CONTRACTOR under this Agreement without the prior written approval of the PRIME CONTRACTOR Program Manager.
- (3) Regarding paragraphs (1) and (2) above, the approval/disapproval by the PRIME CONTRACTOR Program Manager will not be unreasonably withheld. Verbal approval/disapproval may be provided. All verbal discussions will be confirmed in writing. The PRIME CONTRACTOR Program Manager's decision to approval or disapproval will be based upon consultation with the EPA Contracting Officer. The decisions of the EPA Contracting Officer are final.

The SUBCONTRACTOR shall insert in any second tier remedial planning and implementation subcontract or consultant agreement hereunder the provisions

which shall conform substantially to the language of this article, including this paragraph. However, Paragraphs (1) and (2) shall be included in all second tier subcontract and consultant agreements.

I.5 Health and Safety

The nature of the Work to be performed under this Agreement is inherently hazardous.

In performance of Work under this Agreement the SUBCONTRACTOR shall, as a minimum, satisfy all Federal, state, and local statutes, regulations, ordinances, etc., regarding health and safety. Beyond this minimum requirement, the SUBCONTRACTOR shall comply with his own Health and Safety Program and with the Site Safety Plan prepared by PRIME CONTRACTOR for a particular site proposed for field investigation under this Agreement.

I.6 Training

The SUBCONTRACTOR shall certify to PRIME CONTRACTOR in writing that each of its employees or second tier subcontractors or consultants has completed an EPA approved training program (IAW 29 CFR 1910.120), in relation to this project, prior to assignment of any such employee or second tier subcontractor or consultant to field duty.

I.7 Technical Data

- (1) The SUBCONTRACTOR hereby agrees to deliver to PRIME CONTRACTOR within one hundred and twenty (120) days after the completion of the Work under this Agreement or as otherwise requested by PRIME CONTRACTOR the following documents:
- a. All originals and copies, and all abstracts and excerpts therefrom, of all information supplied to the SUBCONTRACTOR by PRIME CONTRACTOR and specifically designated "Confidential Business Information", pursuant to the clause entitled "Treatment of Confidential Information."
- b. All originals and copies, and all abstracts and excerpts therefrom, of all information collected by the SUBCONTRACTOR directly from a business or from a source that represents a business or businesses, such as a trade association, pursuant to the clause entitled "Screening Business Information for Claims of Confidentiality."

c. All originals (if originals are unavailable, copies will be acceptable) of all data defined below, which are pertinent to the support of the Remedial Response Program and have been furnished to the SUBCONTRACTOR by PRIME CONTRACTOR or have been generated by the SUBCONTRACTOR in performance of this Agreement. In the event that there is any disagreement as to whether certain data is considered pertinent, the PRIME CONTRACTOR Program Manager shall make the final determination.

"Data", as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

- d. Copies of all other types of additional data, including but not limited to: reference materials, source lists, field notes, log books, chemical data, maps, and photographs, pursuant to the contract clause entitled "Additional Data Requirements."
- (2) With regard to all copies of data specifically requested by PRIME CONTRACTOR after 120 days from the completion of the Work and supplied in response thereto by the SUBCONTRACTOR, the SUBCONTRACTOR shall be entitled to compensation (either through this Agreement or a separate contractual agreement) to cover the cost of collecting, preparing, editing, duplicating, assembling, and shipping the data requested.
- (3) The SUBCONTRACTOR shall not be required to turn over or provide to PRIME CONTRACTOR any of the following:
- a. Financial, administrative, cost and pricing and management data, or other information incidental to contract administration, pursuant to the clause entitled "Rights in Data Special Works." Such financial, cost, pricing, and management data does not refer to site specific cost records which are necessary to substantiate cost recovery actions.
- b. Data that is not essential and closely related to the Work. In the event there is any disagreement as to whether certain data is essential and related to the Work, the PRIME CONTRACTOR Program Manager shall make the final determination.
- c. Contractual agreements for supplies or services not related to the Work under this Agreement. (This exclusion does not apply, however, to technical data resulting from such services).

- d. SUBCONTRACTOR and personnel performance ratings and evaluations.
- e. Technical or other data previously developed by parties other than the SUBCONTRACTOR which was acquired independently of this Agreement or acquired by the SUBCONTRACTOR prior to this Agreement under conditions restricting the SUBCONTRACTOR's right to such data.
- (4) Upon receipt of all data provided to the PRIME CONTRACTOR by the SUBCONTRACTOR under paragraph (1), above, the PRIME CONTRACTOR Program Manager shall acknowledge in writing to the SUBCONTRACTOR the receipt of all confidential or other data.

I.8 Future Expert Consulting Services

It is recognized that, subsequent to the performance of the Work, the need may arise to provide expert testimony during hearings and/or court proceedings involving site specific activities or other matters, with regard to which personnel provided by the SUBCONTRACTOR under this Agreement (including second tier subcontractor personnel) would have gained expertise as a result of tasks performed under this Agreement. Therefore, the SUBCONTRACTOR agrees to make available expert consulting services in support of such future proceedings, and to enter into intent agreements as necessary with second tier subcontractors or consultants to ensure the availability of SUBCONTRACTOR personnel, provided under this Agreement, to provide expert consulting services. Any agreement to provide such services in the future serves as a notice of intent only. Such services are not purchased hereby and will be obtained through a separate contractual agreement.

I.9 Notification of Conflict of Interest Regarding Personnel

In addition to the requirements of the Agreement clause entitled "Organizational Conflicts of Interest," the following provisions with regard to individual personnel performing under this Agreement shall apply for the duration of the Agreement.

The SUBCONTRACTOR agrees to notify the PRIME CONTRACTOR Program Manager of any actual, apparent, or potential conflict of interest with regard to any individual working on the Project or having access to information regarding this Agreement. Notification of any conflict of interest shall include both organizational conflicts of interest (as defined in the above-referenced Agreement clause) and personal conflicts of interest (which are defined as the same types of

relationships as an organizational conflict of interest, but applicable to an individual).

In the event that a personal conflict of interest appears to exist, the individual who is affected shall be disqualified from taking part in any way in the performance of the assigned work which created the conflict of interest situation.

I.10 Project Employee Confidentiality Agreement

The SUBCONTRACTOR agrees to obtain confidentiality agreements from all personnel working under this Agreement. Confidentiality Agreement Forms for this purpose will be provided by PRIME CONTRACTOR. Any second tier subcontractor or consultant will also require completion of such forms which will be retained by the SUBCONTRACTOR with copies sent to the PRIME CONTRACTOR Program Manager.

Such agreements shall contain provisions which stipulate that each individual agrees not to disclose to any entity external to EPA, DOJ, or PRIME CONTRACTOR either in whole or in part any data or technical data provided by PRIME CONTRACTOR or the Government or generated by the SUBCONTRACTOR, any site specific cost information, or any enforcement strategy without first obtaining the written permission of the EPA Contracting Officer. Such agreements shall be effective for a period of ten (10) years commencing with the date of this Agreement.

I.11 Expert Testimony

From time to time, the Government may have the need for expert testimony during enforcement proceedings for a given site where the SUBCONTRACTOR provided services. Such effort shall be considered within the scope of this Agreement. The individual(s) selected to testify shall be fully knowledgeable of the details of the site under litigation, shall be credible, and be an expert in their field. The testimony shall normally relate to what actions the SUBCONTRACTOR took at a site. In the event such services are required after performance of this Agreement, a separate negotiated agreement may be instituted with the SUBCONTRACTOR.

I.12 Second Tier Subcontractor or Consultant Selection Procedures

The SUBCONTRACTOR shall select second tier subcontractors or consultant services in accordance with Title IX of the Federal Property and Administrative Services Act of 1949. Such procedures are required by Section 119 of the

Superfund Amendments and Reauthorization Act of 1986 and shall apply only to subcontracts in support of the Superfund Program.

No such second tier subcontractor or consultation agreements will be entered into without the written permission of the PRIME CONTRACTOR Program Manager.

I.13 Competition in Subcontracting

The SUBCONTRACTOR shall select lower tier subcontractors (including suppliers) or consultants on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the task assignment. No such second tier subcontracts or consultant agreements will be entered into without the written approval of the PRIME CONTRACTOR Program Manager.

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I.14 Special Patent Reporting Requirements

In order to avoid, mitigate or neutralize an actual or potential conflict of interest, if the SUBCONTRACTOR anticipates the use of corporate patents or other proprietary technologies unique to the SUBCONTRACTOR for use in remedial design and/or remedial action, the SUBCONTRACTOR shall notify the PRIME CONTRACTOR Program Manager in writing of the intent to use such patents or proprietary technologies within five (5) days of the execution of this Agreement.

I.15 Restrictions on Subcontractor Sales to the Government

- (a) Except as provided in (b) below, the SUBCONTRACTOR shall not enter into any agreement with an actual or perspective lower tier subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such lower tier subcontractors directly to the Government of any item or process (including computer software) made or furnished by the lower tier subcontractor under this Agreement or under any follow-on production contract.
- (b) The prohibition in (a) above does not preclude the SUBCONTRACTOR from asserting rights that are otherwise authorized by law or regulation.
- (c) The SUBCONTRACTOR agrees to incorporate the substance of this clause, including this paragraph (c), in all lower tier subcontracts under this Agreement.

I.16 Anti-Kickback Procedures

(a) Definitions.

"Kickback", as used in this clause, means any money, fee, commission, credit gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any PRIME CONTRACTOR, PRIME CONTRACTOR employee, SUBCONTRACTOR, SUBCONTRACTOR employee, lower tier subcontractor, or lower tier subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a subcontract relating to the Prime Contract.

"Person", as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"SUBCONTRACTOR Agreement", as used in this clause, means a contract or contractual action entered into by the PRIME CONTRACTOR and SUBCONTRACTOR for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"PRIME CONTRACTOR Employee", as used in this clause, means any officer, partner, employee, or agent of a PRIME CONTRACTOR.

"Lower Tier Subcontract", as used in this clause, means a contract or contractual action entered into by a SUBCONTRACTOR and a lower tier subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a subcontract.

"Lower Tier Subcontractor", as used in this clause, (1) means any person, other than the SUBCONTRACTOR, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a lower tier subcontract entered into in connection with such subcontract and (2) includes any person who offers to furnish or furnishes general supplies to the SUBCONTRACTOR or a higher tier subcontractor.

"Lower Tier Subcontractor employee", as used in this clause, means any officer, partner, employee, or agent of a lower tier subcontractor.

- (b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -
- (1) Providing or attempting to provide or offering to provide any kickback;
- (2) Soliciting, accepting, or attempting to accept any kickback; or
- (3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a SUBCONTRACTOR to the PRIME CONTRACTOR in the

contract price charged by a lower tier subcontractor to a SUBCONTRACTOR or higher tier subcontractor.

- (c)(1) The SUBCONTRACTOR shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.
- (2) When the SUBCONTRACTOR has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the SUBCONTRACTOR shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.
- (3) The SUBCONTRACTOR shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.
- (4) Regardless of the contract tier at which a kick-back was provided, accepted, or charged under the contract in violation of paragraph (b) of this clause, the Program Manager may -
 - (i) Offset the amount of the kickback against any monies owed by the PRIME CONTRACTOR under this contract and/or (ii) direct that the SUBCONTRACTOR withhold from sums owed the lower tier subcontractor, the amount of the kickback. The Program Manager may order that monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the PRIME CONTRACTOR unless the PRIME CONTRACTOR has already offset those monies under subdivision (c)(4)(i) of this clause. In the latter case, the SUBCONTRACTOR shall notify the Program Manager when the monies are withheld.
 - (5) The SUBCONTRACTOR agrees to incorporate the substance of this clause, including this subparagraph (c)(5), in all lower tier subcontracts under this contract.

I.17 Examination of Records by Comptroller General

- (a) This clause applies if this Agreement exceeds \$10,000 and was entered into by negotiation.
- (b) The Comptroller General of the United States or a duly authorized representative from the General Accounting Office shall, until 3 years after final payment under this contract or for any shorter period specified in Federal Acquisition Regulation (FAR) Subpart 4.7, Contractor Records Retention, have access to and the right to examine any of the SUBCONTRACTOR's directly pertinent books, documents, papers, or other records involving transactions related to this Agreement.

- (c) The SUBCONTRACTOR agrees to include in lower tier subcontracts under this contract a clause to the effect that the Comptroller General or a duly authorized representative from the General Accounting Office shall, until 3 years after final payment under the subcontract or for any shorter period specified in FAR Subpart 4.7, have access to and the right to examine any of the lower tier subcontractor's directly pertinent books, documents, papers, or other records involving transactions related to the lower tier subcontract. "Lower Tier Subcontract," as used in this clause, excludes (1) purchase orders not exceeding \$10,000 and (2) subcontracts or purchase orders for public utility services at rates established to apply uniformly to the public, plus any applicable reasonable connection charge.
- (d) The periods of access and examination in paragraphs (b) and (c) above for records relating to (1) appeals under the disputes clause, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the Comptroller General or a duly authorized representative from the General Accounting Office has taken exception shall continue until such appeals, litigation, claims, or exceptions are disposed of.

I.18 Audit-Negotiation

- (a) Examination of Costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable contract, or any combination of these, the SUBCONTRACTOR shall maintain-and the EPA Contracting Officer and PRIME CONTRACTOR Program Manager or representatives of the EPA Contracting Officer and PRIME CONTRACTOR Program Manager shall have the right to examine and audit --- books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred in performing under this Agreement. This right of examination shall include inspection at all reasonable times of the SUBCONTRACTOR's plants, or parts of them, engaged in performing the Work.
- (b) Cost or pricing data. If, pursuant to law, the SUBCONTRACTOR has been required to submit cost or pricing data in connection with pricing this Agreement or any modification to this Agreement, the EPA Contracting Officer and PRIME CONTRACTOR Program Manager or representatives of the EPA Contracting Officer and PRIME CONTRACTOR Program Manager who are employees of the PRIME CONTRACTOR or the Government shall have the right to examine and audit all books, records, documents, and other data of the SUBCONTRACTOR (including computations and projections) related to negotiating, pricing, or performing under this Agreement or modification, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data. The right of

examination shall extend to all documents necessary to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used.

- (c) Reports. If the SUBCONTRACTOR is required to furnish cost, funding, or performance reports, the EPA Contracting Officer and PRIME CONTRACTOR Program Manager or representatives of the EPA Contracting Officer and PRIME CONTRACTOR Program Manager who are employees of the PRIME CONTRACTOR or the Government shall have the right to examine and audit books, records, other documents, and supporting materials, for the purpose of evaluating (1) the effectiveness of the SUBCONTRACTOR's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.
- (d) Availability. The SUBCONTRACTOR shall make available at its office at all reasonable times the materials described in paragraphs (a) and (b) above, for examination, audit, or reproduction, until 10 years after final payment under this contract, or for any longer period required by statute or by other clauses of this contract. In addition -
- (1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 10 years after any resulting final termination settlement; and
- (2) Records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are disposed of.
- (e) The SUBCONTRACTOR shall insert a clause containing all the terms of this clause, including this paragraph (e), in all lower tier subcontracts over \$10,000 under this contract, altering the clause only as necessary to identify properly the contracting parties and the Program Manager under the PRIME CONTRACTOR's prime contract.

I.19 Price Reduction for Defective Cost or Pricing Data

- (a) If the Government should audit the SUBCONTRACTOR records or any lower tier subcontractor records and determine that any price was defective which results in a reduction of the amount of the Prime Contract, the amount of the price reduction will be passed on to the SUBCONTRACTOR on the following basis:
- (b) If any price, including profit or fee, negotiated in connection with this contract, or any lower tier subcontract under this contract, was increased by any significant amount because (1) the SUBCONTRACTOR or a lower tier subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data, (2) a lower

tier subcontractor or prospective lower tier subcontractor furnished the SUBCONTRACTOR cost or pricing data that were not complete, accurate, and current as certified in the SUBCONTRACTOR's Certificate of Current Cost or Pricing Data, or (3) any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and this contract shall be modified to reflect the reduction.

- (c) Any reduction in this contract price under paragraph (b) above due to defective data from a prospective lower tier subcontractor that was not subsequently awarded the lower tier subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which (1) the actual lower tier subcontract or (2) the actual cost to the SUBCONTRACTOR, if there was no lower tier subcontract, was less than the prospective lower tier subcontract cost estimate submitted by the SUBCONTRACTOR, provided, that the actual lower tier subcontract price was not itself affected by defective cost or pricing data.
- (d) (1) If the Program Manager determines under paragraph (b) of this clause that a price or cost reduction should be made, the SUBCONTRACTOR agrees not to raise the following matters as a defense:
 - (i) The SUBCONTRACTOR or lower tier subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.
 - (ii) The Program Manager should have known that the cost or pricing data in issue were defective even though the SUBCONTRACTOR or lower tier subcontractor took no affirmative action to bring the character of the data to the attention of the Program Manager.
 - (iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.
 - (iv) The SUBCONTRACTOR or lower tier subcontractor did not submit a Certificate of Current Cost or Pricing Data.
 - (2)(i) Except as prohibited by subdivision (d)(2)(ii) of this clause, an offset in an amount determined appropriate by the Program Manager based upon the facts shall be allowed against the amount of a contract price reduction if-

- (A) The SUBCONTRACTOR certifies to the Program Manager that, to the best of the SUBCONTRACTOR's knowledge and belief, the SUBCONTRACTOR is entitled to the offset in the amount requested; and
- (B) The SUBCONTRACTOR proves that the cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.
- (ii) An offset shall not be allowed if-
- (A) The understated data was known by the SUBCONTRACTOR to be understated when the Certificate of Current Cost or Pricing Data was signed; or
- (B) the PRIME CONTRACTOR proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

I.20 Subcontractor Cost or Pricing Data.

- (a) Before awarding any lower tier subcontract expected to exceed \$100,000 when entered into, or before pricing any lower tier subcontract modification involving a pricing adjustment expected to exceed \$100,000, the SUBCONTRACTOR shall require the lower tier subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless the price is-
- (1) Based on adequate price competition;
- (2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or
- (3) Set by law or regulation.
- (b) The SUBCONTRACTOR shall require the lower tier subcontractor to certify in substantially the form prescribed in Subsection 15.804-4 of the Federal Acquisition Regulation (FAR) that, to the best of its knowledge and belief, the data submitted under paragraph (a) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or lower tier subcontract modification.

- (c) In each lower tier subcontract that exceeds \$100,000 when entered into, the SUBCONTRACTOR shall insert either -
- (1) The substance of this clause, including this paragraph (c), if paragraph (a) above requires admission of cost or pricing data for the lower tier subcontract; or
- (2) The substance of the clause at FAR 52.215-25, Subcontractor Cost or Pricing Data-Modifications.

I.21 Subcontractor Cost or Pricing Data-Modifications

- (a) The requirements of paragraphs (b) and (c) of this clause shall (1) become operative only for any modification to this contract involving a pricing adjustment expected to exceed \$100,000 and (2) be limited to such modifications.
- (b) Before awarding any lower tier subcontract expected to exceed \$100,000 when entered into, or pricing any lower tier subcontract modification involving a pricing adjustment expected to exceed \$100,000, the SUBCONTRACTOR shall require the lower tier subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless the price is-
 - (1) Based on adequate price competition;
- (2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or
 - (3) Set by law or regulation.
- (c) The SUBCONTRACTOR shall require the lower tier subcontractor to certify in substantially the form prescribed in Subsection 15.804-4 of the Federal Acquisition Regulation (FAR) that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the lower tier subcontract or lower tier subcontract modification.
- (d) The SUBCONTRACTOR shall insert the substance of this clause, including this paragraph (d), in each lower tier subcontract that exceeds \$100,000 when entered into.

I.22 Utilization of Small Business Concerns and Small Disadvantaged Business Concerns

(a) It is the policy of the United States that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components and related services for

major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals.

- (b) The SUBCONTRACTOR hereby agrees to carry out this policy in the awarding of lower tier subcontracts to the fullest extent consistent with efficient contract performance. The SUBCONTRACTOR further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the SUBCONTRACTOR's compliance with this clause.
- (c) As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern-
- (1) Which is at least 51 percent owned by one or more socially and economically disadvantaged individuals; or, in the case of any publicly owned business, at least 51 per cent of the stock of which is owned by one or more socially and economically disadvantaged individuals and
- (2) Whose management and daily business operations are controlled by one or more of such individuals.

The SUBCONTRACTOR shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans and other minorities, or any other individual found to be disadvantaged by the Administration pursuant to section 8(a) of the Small Business Act.

(d) SUBCONTRACTOR's acting in good faith may rely on written representations by their lower tier subcontractors regarding their status as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals.

I.23 Utilization of Women-Owned Small Businesses.

(a) "Women-Owned small businesses", as used in this clause, means small business concerns that are at least 51 percent owned by women who are United States citizens and who also control and operate the business.

"Control", as used in this clause, means exercising the power to make policy decisions.

"Operate", as used in this clause, means being actively involved in the day-to-day management of the business.

"Small business concern", as used in this clause, means a concern including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

- (b) It is the policy of the United States that women-owned small businesses shall have the maximum practicable opportunity to participate in performing contracts awarded by any Federal agency.
- (c) The SUBCONTRACTOR agrees to use its best efforts to give women-owned small businesses the maximum practicable opportunity to participate in the lower tier subcontracts it awards to the fullest extent consistent with the efficient performance of its contract.
- (d) The SUBCONTRACTOR may rely on written representations by its subcontractors regarding their status as women-owned small businesses.

I.24 Utilization of Labor Surplus Area Concerns

- (a) Applicability. This clause is applicable if this contract exceeds the appropriate small purchase limitation in Part 13 of the Federal Acquisition Regulation.
- (b) Policy. It is the policy of the Government to award contracts to concerns that agree to perform substantially in labor surplus areas (LSA's) when this can be done consistent with the efficient performance of the contract and at prices no higher than are obtainable elsewhere. The SUBCONTRACTOR agrees to use its best efforts to place lower tier subcontracts in accordance with this policy.
- (c) Order of preference. In complying with paragraph (b) above and with paragraph (c) of the clause of this contract entitled Utilization of Small Business concerns and Small Disadvantaged Business Concerns, the SUBCONTRACTOR shall observe the following order of preference in awarding lower tier subcontracts: (1) small business concerns that are LSA concerns, (2) other small business concerns, and (3) other LSA concerns.
- (d) Definitions. "Labor surplus area," as used in this clause, means a geographical area identified by the Department of Labor in accordance with 20 CFR 654, Subpart A, as an area of concentrated unemployment or underemployment or an area of labor surplus.

"Labor surplus area concern," as used in this clause, means a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas. Performance is substantially in labor surplus areas if the costs incurred under the contract on account of manufacturing, production, or

performance of appropriate services in labor surplus areas exceed 50 percent of the contract price.

I.25 Equal Opportunity

During performing this contract, the SUBCONTRACTOR agrees as follows:

- (1) The SUBCONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
- (2) The SUBCONTRACTOR shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.
- (3) The SUBCONTRACTOR shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Program Manager that explain this clause.
- (4) The SUBCONTRACTOR shall, in all solicitations or advertisements for employees placed by or on behalf of the SUBCONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- (5) The SUBCONTRACTOR shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Program Manager advising the labor union or works' representative of the SUBCONTRACTOR's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.
- (6) The SUBCONTRACTOR shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.
- (7) The SUBCONTRACTOR shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. Standard Form 100 (EEO-1), or any successor form, is the prescribed form to be filed within 30 days following the award, unless filed within 12 months preceding the date of award.

- (8) The SUBCONTRACTOR shall permit access to its books, records, and accounts by the contracting agency or the Office of Federal Contract Compliance Programs (OFCCP) for the purposes of investigation to ascertain the SUBCONTRACTOR's compliance with the applicable rules, regulations, and orders.
- (9) If the OFCCP determines that the SUBCONTRACTOR is not in compliance with this clause or any rule, regulation, or order of the secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the SUBCONTRACTOR may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the SUBCONTRACTOR as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.
- (10) The SUBCONTRACTOR shall include the terms and conditions of subparagraph (1) through (11) of this clause in every lower tier subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each lower tier subcontractor or vendor.
- (11) The SUBCONTRACTOR shall take such action with respect to any lower tier subcontract or purchase order as the contracting agency may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the SUBCONTRACTOR becomes involved in, or is threatened with, litigation with a lower tier subcontractor or vendor as a result of any direction, the SUBCONTRACTOR may request the United States to enter into the litigation to protect the interests of the United States.

I.26 Affirmative Action for Special Disabled and Vietnam Era Veterans

(a) Definitions.

"Appropriate office of the State employment service system," as used in this clause, means the local office of the Federal-State national system of public employment offices assigned to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico, Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

"Openings that the SUBCONTRACTOR proposes to fill from within its own organization," as used in this clause, means employment openings for which no

one outside the SUBCONTRACTOR's organization (including any affiliates, subsidiaries, and the parent companies) will be considered and includes any openings that the SUBCONTRACTOR proposes to fill from regularly established "recall" lists.

"Openings that the SUBCONTRACTOR proposes to fill under a customary and traditional employer-union hiring arrangement," as used in this clause, means employment openings that the SUBCONTRACTOR proposes to fill from union halls, under their customary and traditional employer-union hiring relationship.

"Suitable employment openings," as used in this clause ---

- (1) Includes, but is not limited to, openings that occur in jobs categorized as ---
 - (i) Production and nonproduction;
 - (ii) Plant and office;
 - (iii) Laborers and mechanics:
 - (iv) Supervisory and nonsupervisory;
 - (v) Technical; and
 - (vi) Executive, administrative, and professional positions compensated on a salary basis of less than \$25,000 a year; and
- (2) Includes full-time employment, temporary employment of over 3 days, and part-time employment, but not openings that the SUBCONTRACTOR proposes to fill from within its own organization or under a customary and traditional employer-union hiring arrangement, nor openings in an educational institution that are restricted to students of that institution.
- (b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the SUBCONTRACTOR shall not discriminate against the individual because the individual is a special disabled or Vietnam Era veteran. The SUBCONTRACTOR agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled and Vietnam Era veteran without discrimination based upon their disability or veterans' status in all employment practices such as ---
 - (i) Employment;
 - (ii) Upgrading;
 - (iii) Demotion or transfer;
 - (iv) Recruitment;
 - (v) Advertising;
 - (vi) Layoff or termination;
 - (vii) Rates of pay or other forms of compensation; and
 - (viii) Selection for training, included apprenticeship.

- (2) The SUBCONTRACTOR agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veteran's Readjustment Assistance Act of 1972 (the Act), as amended.
- (c) Listing openings. (1) The SUBCONTRACTOR agrees to list all suitable employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any SUBCONTRACTOR facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.
- (2) State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service.
- (3) The listing of suitable employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the SUBCONTRACTOR from any requirements of Executive orders or regulations concerning nondiscrimination in employment.
- (4) Whenever the SUBCONTRACTOR becomes contractually bond to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the SUBCONTRACTOR is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The SUBCONTRACTOR may advise the State system when it is no longer bound by this contract clause.
- (5) Under the most compelling circumstances, an employment opening may not be suitable for listing, including situations when (i) the Government's needs cannot reasonably be supplied, (ii) listing would be contrary to national security, or (iii) the requirement of listing would not be in the Government's interest.
- (d) Applicability. (1) This clause does not apply to the listing of employment openings which occur and are filled outside the 50 states, the District of Columbia, Puerto Rico, Guam, Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

- (2) The terms of paragraph (c) above of this clause do not apply to openings that the SUBCONTRACTOR proposes to fill from within its own organization or under a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of its own organization or employer-union arrangement for that opening.
- (e) *Postings*. (1) The SUBCONTRACTOR agrees to post employment notices stating (i) The SUBCONTRACTOR's obligation under the law to take affirmative action to employ and advance in employment qualified special disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.
- (2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor (Director), and provided by or through the Program Manager.
- (3) The SUBCONTRACTOR shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the SUBCONTRACTOR is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified special disabled and Vietnam Era veterans.
- (f) Noncompliance. If the SUBCONTRACTOR does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations and relevant orders of the Secretary issued pursuant to the Act.
- (g) Subcontracts. The SUBCONTRACTOR shall include the terms of this clause in every lower tier subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The SUBCONTRACTOR shall act as specified by the Director to enforce the terms, including action for noncompliance.

I.27 Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era

- (a) The SUBCONTRACTOR shall report at least annually, as required by the Secretary of Labor, on:
- (1) The number of special disabled veterans and the number of veterans of the Vietnam era in the work-force of the SUBCONTRACTOR by job category and hiring location; and

- (2) The total number of new employees hired during the period covered by the report, and of that total, the number of special disabled veterans, and the number of veterans of the Vietnam era.
- (b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100".
- (c) Reports shall be submitted no later than March 31 of each year beginning March 31, 1988.
- (d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profiel report required by paragraph (a)(1) of this clause. SUBCONTRACTOR's may select an ending date: (1) as of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the SUBCONTRACTOR has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).
- (e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each SUBCONTRACTOR subject to the reporting requirements at 38 U.S.C. 2012(d) shall invite all special disabled veterans and veterans of the Vietanam era who wish to benefit under the affirmative action program at 38 U.S.C. 2012 to identify themselves to the SUBCONTRACTOR. The invitation shall state that the information is voluntary provided, that the information will be kept confidential, that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 2012.
- (f) Subcontracts. The SUBCONTRATOR shall include the terms of this clause in every lower tier subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

I.28 Affirmative Action for Handicapped Workers

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the SUBCONTRACTOR shall not discriminate against any employee or applicant because of physical or mental handicap. The SUBCONTRACTOR agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified handicapped individuals without

discrimination based upon their physical or mental handicap in all employment practices such as ---

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion or transfer;
- (iv) Recruitment:
- (v) Advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.
- (2) The SUBCONTRACTOR agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.
- (b) Postings. (1) The SUBCONTRACTOR agrees to post employment notices stating (i) the SUBCONTRACTOR's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped individuals and (ii) the rights of applicants and employees.
- (2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor (Director), and provided by or through the Program Manager.
- (3) The SUBCONTRACTOR shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the SUBCONTRACTOR is bound by the terms of Section 502 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified physically and mentally handicapped individuals.
- (c) Noncompliance. If the SUBCONTRACTOR does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Surplus.

"Labor surplus area concern," as used in this clause, means a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas. Performance is substantially in labor surplus areas if the costs incurred under the contract on account of manufacturing, production, or

performance of appropriate services in labor surplus areas exceed 50 percent of the contract price.

I.29 Clean Air and Water

(a) "Air Act," as used in this clause, means the Clean Air Act (42 U.S.C. 7401 et seq.)

"Clean air standards," as used in this clause, means ---

- (1) Any enforceable rules, regulations, guidelines, standards, limitations, orders, controls prohibitions, work practices, or other requirements contained in , issued under, or otherwise adopted under the Air Act or Executive Order 11738;
- (2) An applicable implementation plan as described in section 110(d) of the air Act (42 U.S.C. 7410(d));
- (3) An approved implementation procedure or plan under section 111(c) or section 111(d) of the Air Act (42 U.S.C. 7411(c) or (d)); or
- (4) An approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 7412(d)).

"Clean water standards," as used in this clause, means any enforceable limitation, control, conditions, prohibition, standard, or other requirement promulgated under the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

"Compliance," as used in this clause, means compliance with ---

- (1) Clean air or water standards; or
- (2) A schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency, or an air or water pollution control agency under the requirements of the Air Act or Water Act and related regulations.

"Facility," as used in this clause, means any performance of a contract or subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the administrator, or a designee, of the

Environmental Protection Agency, determines that independent facilities are located in one geographical area.

"Water Act," as used in this clause, means Clean Water Act (33 U.S.C. 1251 et seq.).

(b) The SUBCONTRACTOR agrees ---

- (1) To comply with all the requirements of section 114 of the Clean Air Act (42 U.S.C. 7414) and section 308 of the Clean Water Act (33 U.S.C. 1318) relating to inspection, monitoring entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, and all regulations and guidelines issued to implement those acts before the award of this contract;
- (2) That no portion of the work required by this contract will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of the facility from the listing;
- (3) To use best efforts to comply with clean air standards and clean water standards at the facility in which the contract is being performed; and
- (4) To insert the substance of this clause into any nonexempt lower tier subcontract, including this subparagraph (b)(4).

I.30 Hazardous Material Identification and Material Safety Data

- (a) The SUBCONTRACTOR agrees to submit a Material Safety Data Sheet (Department of Labor Form OSHA-20) as prescribed in Federal Standard No. 313A, for all hazardous material 5 days before delivery of the materials, whether or not listed in Appendix A of the Standard. This obligation applies to all materials delivered under this contract which will involve exposure to hazardous materials or items containing these materials.
- (b) "Hazardous material," as used in this clause, is as defined in Federal Standard No. 313A, in effect on the date of this contract.
- (c) Neither the requirements of this clause nor any act or failure to act by the PRIME CONTRACTOR or the Government shall relieve the SUBCONTRACTOR of any responsibility or liability for the safety of Government, PRIME CONTRACTOR, SUBCONTRACTOR, or lower tier subcontractor personnel or property.

- (d) The SUBCONTRACTOR shall comply with applicable Federal, state, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.
- (1) To use, duplicate, and disclose any data to which this clause is applicable. The purposes of this right are to (i) apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials; (ii) obtain medical treatment for those affected by the material; and (iii) have others use, duplicate, and disclose the data for the PRIME CONTRACTOR and the Government for these purposes.
- (2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (e)(1) above, in precedence over any other clause of this contract providing for rights in data.
- (3) That the PRIME CONTRACTOR or the Government is not precluded from using similar or identical data acquired from other sources.
- (4) That the data shall not be duplicated, disclosed, or released outside the PRIME CONTRACTOR or the Government, in whole or in part for any acquisition or manufacturing purpose, if the following legend is marked on each piece of data to which this clause applies ---

"This is furnished under United States Government Contract No. 68-W8-0079 and shall not be used, duplicated, or disclosed for any acquisition or manufacturing purpose without the permission of WW Engineering and Science and the U.S. Environmental Protection Agency. This legend shall be marked on any reproduction of this data."

- (5) That the SUBCONTRACTOR shall not place the legend or any other restrictive legend on any data which (i) the SUBCONTRACTOR or any lower tier subcontractor previously delivered to the PRIME CONTRACTOR without limitations or (ii) should be delivered without limitations under the conditions specified in the Federal Acquisition Regulation in the clause at 52.227-18, Rights in Data.
- (f) The SUBCONTRACTOR shall insert this clause, including this paragraph (f), with appropriate changes in the designation of the parties, in lower tier subcontracts (including purchase designations or purchase orders) under this contract involving hazardous material.

I.31 Authorization and Consent

- (a) The Government authorizes and consents to all use and manufacture, in performing this contract or any lower tier subcontract, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the SUBCONTRACTOR or a lower tier subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the EPA Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any lower tier subcontract hereunder and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.
- (b) The SUBCONTRACTOR agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all lower tier subcontracts for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed \$25,000; however, omission of this clause from any lower tier subcontract, under or over \$25,000, does not affect this authorization and consent.

I.32 Notice and Assistance Regarding Patent and Copyright Infringement

- (a) The SUBCONTRACTOR shall report to the PRIME CONTRACTOR Program Manager and the EPA Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the SUBCONTRACTOR has knowledge.
- (b) In the event of any claim or suit against the PRIME CONTRACTOR or the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the SUBCONTRACTOR shall furnish to the PRIME CONTRACTOR and the Government when requested by the PRIME CONTRACTOR Program Manager or the EPA Contracting Officer, all evidence and information in possession of the SUBCONTRACTOR pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the PRIME CONTRACTOR and the Government except where the SUBCONTRACTOR has agreed to indemnify the PRIME CONTRACTOR and the Government.

(c) The SUBCONTRACTOR agrees to include, and require inclusion of, this clause in all lower tier subcontracts for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the dollar amount set forth in 13000 of the Federal Acquisition Regulation (FAR).

I.33 Limitation of Liability -- Services

- (a) Except as provided in paragraphs (b) and (c) below, and except to the extent that the SUBCONTRACTOR is expressly responsible under this contract for deficiencies in the services required to be performed under it (including any materials furnished in conjunction with those services), the SUBCONTRACTOR shall not be liable for loss of or damage to property of the PRIME CONTRACTOR that (1) occurs after PRIME CONTRACTOR acceptance of services performed under this contract and (2) results from any defects or deficiencies in the services performed or materials furnished.
- (b) The limitation of liability under paragraph (a) above shall not apply when a defect or deficiency in, or the PRIME CONTRACTOR's acceptance of, services performed or materials furnished results from willful misconduct or lack of good faith on the part of any of the SUBCONTRACTOR's managerial personnel. The term "SUBCONTRACTOR's managerial personnel," as used in this clause, means the SUBCONTRACTOR's directors, officers, and any of the SUBCONTRACTOR's managers, superintendents, or equivalent representatives who have supervision or direction of ---
- (1) All or substantially all of the SUBCONTRACTOR's business;
- (2) All or substantially all of the SUBCONTRACTOR's operations at any one plant, laboratory, or separate location at which the contract is being performed; or
- (3) A separate and complete major industrial operation connected with the performance of this contract.
- (c) If the SUBCONTRACTOR carries insurance, or has established a reserve for self-insurance, covering liability for loss or damage suffered by the PRIME CONTRACTOR through the SUBCONTRACTOR's performance of services or furnishing of materials under this contract, the SUBCONTRACTOR shall be liable to the PRIME CONTRACTOR, to the extent of such insurance or reserve, for loss of or damage to property of the PRIME CONTRACTOR occurring after PRIME CONTRACTOR acceptance of, and resulting from any defects and deficiencies in, services performed or materials furnished under this contract.

(d) The SUBCONTRACTOR shall include this clause, including this paragraph (d), supplemented as necessary to reflect the relationship of the contracting parties, in all lower tier subcontracts over \$25,000.

I.34 Excusable Delays

- (a) Except for defaults of lower tier subcontractors, the SUBCONTRACTOR shall not be in default because of any failure to perform this contract under its terms if the failure arises from causes beyond the control and without the fault or negligence of the SUBCONTRACTOR. Examples of these causes are (1) acts of God or of the public enemy, (2) acts of the Government in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, (9) unusually severe weather. In each instance, the failure to perform must be beyond the control and without the fault or negligence of the SUBCONTRACTOR. "Default" includes failure to make progress in the work so as to endanger performance.
- (b) If the failure to perform is caused by the failure of a lower tier subcontractor to perform or make progress, and if the cause of the failure was beyond the control of both the SUBCONTRACTOR and lower tier subcontractor, and without the fault or negligence of either, the SUBCONTRACTOR shall not be deemed to be in default, unless ---
- (1) The lower tier subcontracted supplies or services were obtainable from other sources:
- (2) The Program Manager ordered the SUBCONTRACTOR in writing to purchase these supplies or services from the other source; and
- (3) The SUBCONTRACTOR failed to comply reasonably with this order.
- (c) Upon request of the SUBCONTRACTOR, the Program Manager shall ascertain the facts and extent of the failure. If the Program Manager determines that any failure to perform results from one or more of the causes above, the delivery schedule shall be revised, subject to the rights of the PRIME CONTRACTOR under the termination clause of this contract.

I.35 Publicity

(a) The SUBCONTRACTOR agrees not to release any information to the news media regarding the removal or remedial activities being conducted under this contract. All such release of project information shall be made only by the PRIME CONTRACTOR.

I.36 Additional Data Requirements

- (a) In addition to the data (as defined in the clause at 52.227-14, Rights in Data-General clause or other equivalent included in this contract) specified elsewhere in this contract to be delivered, the PRIME CONTRACTOR Program Manager may, at any time during contract performance or within a period of 3 years after acceptance of all items to be delivered under this contract, order any data first produced or specifically used in the performance of this contract.
- (b) The Rights in Data-General clause or other equivalent included in this contract is applicable to all data ordered under this Additional Data Requirements clause. Nothing contained in this clause shall require the SUBCONTRACTOR to deliver any data the withholding of which is authorized by the Rights in Data-General or other equivalent clause of this contract, or data which are specifically identified in this contract as not subject to this clause.
- (c) When data are to be delivered under this clause, the SUBCONTRACTOR will be compensated for converting the data into the prescribed form, for reproduction, and for delivery.
- (d) The PRIME CONTRACTOR Program Manager may release the SUBCONTRACTOR from the requirements of this clause for specifically identified data items at any time during the 3-year period set forth in paragraph (a) of this clause.

I.37 Rights In Data - Special Works

(a) Definitions.

"Data," as used in this clause, means recorded information regardless of form or the medium on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing or management information.

"Unlimited rights," as used in this clause, means the right of the PRIME CONTRACTOR to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose whatsoever, and to have or permit others to do so.

- (b) Allocation of Rights. (1) The PRIME CONTRACTOR shall have-
- (i) Unlimited rights in all data delivered under this contract, and in all data first produced in the performance of this contract, except as provided in paragraph (c) of this clause for copyright.
- (ii) The right to limit exercise of claim to copy-right in data first produced in the performance of this contract, and to obtain assignment of copyright in such data, in accordance with subparagraph (c)(1) of this clause.
- (iii) The right to limit the release and use of certain data in accordance with paragraph (d) of this clause.
- (2) The SUBCONTRACTOR shall have, to the extent permission is granted in accordance with subparagraph (c)(1) of this clause, the right to establish claim to copy right subsisting in data first produced in the performance of this contract.
- (c) Copyright. (1) Data first produced in the performance of this contract.
- (i) The SUBCONTRACTOR agrees not to assert, establish, or authorize others to assert or establish, any claim to copyright subsisting in any data first produced in the performance of this contract without prior written permission of the PRIME CONTRACTOR Program Manager. When claim to copyright is made, the SUBCONTRACTOR shall affix the appropriate copyright notice of 17 U.S.C. 401 or 402 and acknowledgement of Government sponsorship (including contract number) to such data when delivered to the PRIME CONTRACTOR, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. The SUBCONTRACTOR grants to the PRIME CONTRACTOR and others acting on its behalf, a paid-up nonexclusive, irrevocable, worldwide license for all such data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the PRIME CONTRACTOR.
- (ii) If the PRIME CONTRACTOR desires to obtain copyright in data first produced in the performance of this contract and permission has not been granted as set forth in subdivision (c)(1)(i) of this clause, the PRIME CONTRACTOR Program Manager may direct the SUBCONTRACTOR to establish, or authorize the establishment of, claim to copyright in such data and to assign, or obtain the assignment of, such copyright to the PRIME CONTRACTOR or its designated assignee.
- (2) Data not first produced in the performance of this contract. The SUBCONTRACTOR shall not, without prior written permission of the PRIME

CONTRACTOR Program Manager, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contain the copyright notice of 17 U.S.C. 401 or 402, unless the SUBCONTRACTOR identifies such data and grants to the PRIME CONTRACTOR or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause.

- (d) Release and use restrictions. Except as otherwise specifically provided for in this contract, the SUBCONTRACTOR shall not use for purposes other than the performance of this contract, nor shall the SUBCONTRACTOR release, reproduce, distribute, or publish any data dirst produced in the performance of this contract, nor authorize others to do so, without written permission of the PRIME CONTRACTOR Program Manager.
- The SUBCONTRACTOR shall indemnify the PRIME (e) Indemnity. CONTRACTOR and its officers, agents, and employees acting for the PRIME CONTRACTOR against any liability, including costs and expenses, incurred as the result of the violation of trade secrets, copyrights, or right of privacy or publicity, arising out of the creation, delivery, publication, or use of any data furnished under this contract; or any libelous or other unlawful matter contained in such data. The provisions of this paragraph do not apply unless the PRIME CONTRACTOR provides notice to the SUBCONTRACTOR as soon as practicable of any claim or suit, affords the SUBCONTRACTOR an opportunity under applicable laws, rules, or regulations to participate in the defense thereof, and obtains the SUBCONTRACTOR's consent to the settlement of any suit or claim other than as required by final decree of a court of competent jurisdiction; nor do these provisions apply to material furnished to the SUBCONTRACTOR by the PRIME CONTRACTOR and incorporated in data to which this clause applies.

I.38 Convict Labor

The SUBCONTRACTOR agrees not to employ any person undergoing sentence of imprisonment in performing this contract except as provided by 18 U.S.C. 4082(c)(2) and Executive Order 11755, December 29, 1973.

I.39 Notice to the PRIME CONTRACTOR of Labor Disputes

(a) If the SUBCONTRACTOR has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the SUBCONTRACTOR shall immediately give notice, including all relevant information, to the PRIME CONTRACTOR Program Manager.

(b) The SUBCONTRACTOR agrees to insert the substance of this clause, including this paragraph (b), in any lower tier subcontract to which a labor dispute may delay the timely performance of this contract; except that each lower tier subcontract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the lower tier subcontractor shall immediately notify the next higher tier subcontractor or the PRIME CONTRACTOR, as the case may be, of all relevant information concerning the dispute.

I.40 Disputes

- (a) All disputes arising under or relating to this contract shall be resolved under this clause
- (b) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the SUBCONTRACTOR seeking the payment of money exceeding \$50,000 is not a claim under this clause until certified as required by subparagraph (c)(2) below. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under this clause. The submission may be converted to a claim under this clause, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (c) (1) A claim by the SUBCONTRACTOR shall be made in writing and submitted to the PRIME CONTRACTOR Program Manager for a written decision. A claim by the PRIME CONTRACTOR against the SUBCONTRACTOR shall be subject to a written decision by the PRIME CONTRACTOR Program Manager.
- (2) For SUBCONTRACTOR claims exceeding \$50,000, the SUBCONTRACTOR shall submit with the claim a certification that--
 - (i) The claim is made in good faith;
 - (ii) Supporting data are accurate and complete to the best of the SUBCONTRACTOR's knowledge and belief; and
 - (iii) The amount requested accurately reflects the contract adjustment for which the SUBCONTRACTOR believes the PRIME CONTRACTOR is liable.

- (3) (i) If the SUBCONTRACTOR is an individual, the certification shall be executed by that individual.
 - (ii) If the SUBCONTRACTOR is not an individual, the certification shall be executed by
 - (A) A senior company official in charge at the SUBCONTRACTOR's plant or location involved; or
 - (B)An officer or general partner of the SUBCONTRACTOR having overall responsibility for the conduct of the SUBCONTRACTOR's affairs.
- (d) For SUBCONTRACTOR claims of \$50,000 or less, the PRIME CONTRACTOR Program Manager must, if requested in writing by the SUBCONTRACTOR, render a decision within 60 days of the request. For SUBCONTRACTOR-certified claims over \$50,000, the PRIME CONTRACTOR Program Manager must, within 60 days, decide the claim or notify the SUBCONTRACTOR of the date by which the decision will be made.
- (e) The PRIME CONTRACTOR Program Manager's decision shall be final unless the SUBCONTRACTOR appeals as provided in this paragraph (e). The SUBCONTRACTOR shall not have the right of direct appeal to the AGENCY. In the event the SUBCONTRACTOR elects to appeal a decision of the PRIME CONTRACTOR Program Manager, the PRIME CONTRACTOR shall, subject to the following, either authorize an appeal in the PRIME CONTRACTOR'S name, or bring an appeal on behalf of the SUBCONTRACTOR.
- (1) The PRIME CONTRACTOR shall cooperate in the preparation and presentation of the SUBCONTRACTOR'S claim against the PRIME CONTRACTOR.
- (2) The SUBCONTRACTOR shall indemnify the PRIME CONTRACTOR for all expenses, costs, liability, damages, judgments and awards, including attorney fees, arising out of the SUBCONTRACTOR'S appeal, and including, without limitation, any liability accuring to the PRIME CONTRACTOR for certifying the SUBCONTRACTOR'S claim on behalf of the SUBCONTRACTOR.
- (3) All actions taken by the PRIME CONTRACTOR pursuant to this paragraph (e), including matters relating to the applicable statute of limitations and choice of forum, shall be pursuant to the written direction of SUBCONTRACTOR.

- (f) The PRIME CONTRACTOR shall pay interest on the amount found due and unpaid from (1) the date the PRIME CONTRACTOR Program Manager receives the claim (properly certified if required), or (2) the date payment otherwise would be due, if that date is later, until the date of payment. Simple interest on claims shall be paid at the rate of one percent (1%) per month during the pendency of the claim.
- (g) The SUBCONTRACTOR shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the PRIME CONTRACTOR Program Manager.
- (h) Under no circumstances shall the PRIME CONTRACTOR be obligated to pay the SUBCONTRACTOR as a result of AGENCY actions unless and until the PRIME CONTRACTOR receives the amount claimed by the SUBCONTRACTOR from the AGENCY. If the AGENCY fails to pay the amount claimed by the SUBCONTRACTOR, the PRIME CONTRACTOR shall have no further liability to the SUBCONTRACTOR.

I.41 Termination

The PRIME CONTRACTOR's Program Manager, by written notice, may terminate this contract, in whole or in part, when it is in the PRIME CONTRACTOR's interest. If this contract is terminated, the PRIME CONTRACTOR shall be liable only for payment under the payment provisions of this contract for services rendered before the effective date of termination.

SPECIFICATIONS FOR DRILLING AND MONITORING WELL INSTALLATION ALBION-SHERIDAN TOWNSHIP LANDFILL ALBION, MICHIGAN

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION V CHICAGO, ILLINOIS

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PART 1 - GENERAL

1.01 SITE LOCATION AND DESCRIPTION:

The Albion-Sheridan Township Landfill site (the "site") is a former landfill located approximately 1 mile east of Albion, Michigan in Section 36 (T2S, R4W) of Calhoun County (see Figure 1). The site is defined as Lot 27 and Lot 28 of the Supervisor's Plat. The site is comprised of approximately 30 acres of land. It is bordered on the north by Michigan Avenue (also known as State Route 99), on the east by the Calhoun/Jackson County line, and on the south by East Erie Road. The western boundary of the site is approximately 660 feet west of the Calhoun/Jackson County line. The site is located in a predominantly rural-residential and commercial area on the east side of Calhoun County.

1.02 BACKGROUND

The Albion-Sheridan Township Landfill was privately owned and was operated between 1966 and 1981. The landfill reportedly accepted municipal refuse and industrial wastes from the City of Albion and nearby Sheridan Township. In the early 1970s, the MDNR approved the landfill to accept metal plating sludges described as insoluble hydroxides and carbonates. The exact volume of metallic sludges received by the landfill is unknown, but it has been estimated that as much as 6,000 cubic yards of sludge were accepted. Other materials, such as paint wastes and thinners, oil and grease, and dust, sand, and dirt containing fly ash and casting sand are also believed to have been disposed of at the site. Near the time the landfill closed, Scott's Disposal Service, Inc. purchased some land in the northern part of the site to use as a waste transfer station.

1.03 GEOLOGIC AND SUBSURFACE CONDITIONS

A. Subsurface Features/Local Water Supply

Soils at the site are reported to be predominantly glacial sands and gravels. Discontinuous clay, or silty clay, layers may be interbedded within the coarser materials and may also directly overlie the bedrock surface. The approximate thickness of the unconsolidated glacial deposits is anticipated to range between 25 and 40 feet at the site. In 1980, the water table was encountered approximately 12 to 26 feet below ground level in 3 on-site monitoring wells, within the unconsolidated soils.

The bedrock beneath the site is comprised of Mississippian-aged sandstones of the Marshall Formation. These sandstones serve as the primary aquifer for private, public, and industrial water supply in the area. The 2 aquifers (unconsolidated soils and the sandstone) are believed to be hydraulically

connected with ground water flowing in a south to southwesterly direction towards the North Branch of the Kalamazoo River.

Based on 1980 census figures, it was estimated that 13,500 people received water from public or private wells within a 3-mile radius of the site. A private well was located in the southern portion of the site to provide water to a residence once occupied by the landfill operator. This 108 foot deep well was completed in bedrock. A sample collected from this well in October 1989 was analyzed for volatile organic compounds (VOCs), none were detected.

Two wells used for water supply for the Amberton Village Subdivision, are located approximately 1000 feet east of the site. Both of these bedrock wells were drilled to a depth of 350 feet and are cased to a depth of 95 feet.

Three of Albion's municipal wells are located approximately 1 mile west of the site. These wells are completed in the Marshall Sandstone at depths ranging from 254 to 260 feet. Casing extends 76 feet below ground in 2 of the wells, and 58 feet below ground level in the third.

1.04 GENERAL DESCRIPTION OF WORK

A. Pre-bid Meeting:

A pre-bid meeting will be held at the Sheridan Township Administration Building to be followed by a visit to the Albion-Sheridan Township Landfill site on July 9, 1992. Details of the pre-bid meeting are explained in ARTICLE 8 of the INSTRUCTIONS TO BIDDERS. Questions regarding the specifications will be addressed at the pre-bid meeting by the PRIME CONTRACTOR's representative. The site will be open for inspection of well locations and general access during this meeting. Attendance at this meeting and site visit is required by all BIDDERS.

B. Subsurface Soil and Landfill Refuse Sampling

Soil samples will be collected at each of the ground water monitoring well cluster locations (15 total). In order to characterize the composition of the landfill, samples from within the landfill will also be collected. It is anticipated that 3 borings will be drilled within the landfill. The general anticipated location for monitoring well clusters is shown in Figure 2. All soil samples will be collected from borings drilled to accommodate the installation of monitoring wells.

Soil boring and landfill refuse samples will be collected by the SUBCONTRACTOR through hollow-stem augers with a 2-foot long, 3-inch diameter split-spoon sampler.

Split-spoon samples will be collected continuously from the existing ground surface to the top of bedrock at 6 of the soil boring locations, (MW-1 through MW-6) and in each of the landfill refuse borings (LF-1 through LF-3). In the deepest borehole at each of the remaining ground water monitoring well cluster locations, split-spoon samples will be collected at 2.5-foot intervals in the first 10 feet and thereafter at 5-foot intervals to the bottom of the borehole.

The PRIME CONTRACTOR may request that the SUBCONTRACTOR collect additional soil samples with 3-inch diameter split-spoon samplers in adjacent borings at selected monitoring well cluster locations. For bidding purposes it is assumed that 45 additional soil samples will be collected.

If a clay-rich layer that is greater than 2 feet thick is encountered while drilling, a Shelby tube sample of the clay will be collected by the SUBCONTRACTOR. It is anticipated that 20 Shelby tube samples will be collected.

C. Installation of Monitoring Wells - Phase I

A maximum of 40 monitoring wells will be installed at up to 18 tentative locations during Phase I of this RI (see Figure 2). At some of the locations it is possible that no wells will be installed. The ultimate determination of the number of wells required to define ground water flow and quality characteristics will be determined by the PRIME CONTRACTOR. A flow chart for the general criteria used to determine the number of bedrock monitoring wells installed during Phase I is provided in Figure 3. The number of monitoring wells installed in the glacial deposits will be dependent on the number of locations at which bedrock wells are installed and the thickness of the glacial aquifer. It is anticipated that 1 well at each location will be screened immediately below the top of the water table. Other wells may be installed immediately above the bedrock and/or in the bedrock.

Initially, the bedrock wells at 5 locations (MW-1 through MW-5) will be installed. Based on the calculated ground water flow direction resulting from measurements made in these 5 wells by the PRIME CONTRACTOR, the deep bedrock well at MW-6 will be installed directly downgradient from the site.

All monitoring wells will be constructed of 2-inch diameter PVC riser pipe and screens with flush joint threads. Threaded joints between sections of casing will be wrapped with Teflon tape to eliminate leakage at the threads. The screens will have 0.010-inch (10-slot) factory prepared openings. A threaded PVC cap will be installed on the bottom of each well screen. Prior to

installation of each well, all well construction materials will be steam cleaned to the satisfaction of the PRIME CONTRACTOR.

A sand pack of clean silica sand approved by the PRIME CONTRACTOR shall be placed in the screened interval and extend to at least 2 feet and not more than 3 feet above the top of the well screen.

A 2 to 3-foot thick seal of pelletized bentonite will be emplaced immediately above the top of the sand pack to ensure that a competent seal is in place.

A cement/bentonite grout will be tremied from the bentonite seal to just below ground surface to ensure that the annular space between the well and borehole has been completely sealed.

A threaded, vented PVC cap will be installed on the top of the casing riser.

A locking, anodized aluminum protective casing will be installed at the ground surface secured in concrete.

Steel bumper posts may be installed surrounding any well that appears to be in a traffic zone. For bidding purposes it is assumed that 4 bumper posts will be needed at 10 locations for a total of 40 posts.

A schematic diagram of construction details for monitoring wells in glacial deposits and monitoring wells in bedrock is shown in Figures 4 and 5, respectively.

All drilling and well installation will be supervised and documented by the PRIME CONTRACTOR. A summary of Phase I monitoring wells is provided in Table 1.

D. Monitoring Wells in Glacial Deposits

One monitoring well will be installed by the PRIME CONTRACTOR at each of the 4 locations (MW-10 through MW-13) in the wetlands along the North Branch of the Kalamazoo River. Each of these wells will have a 3-foot long screen which will be installed approximately 2 feet below the water table. All materials for these 4 wells will be supplied to the PRIME CONTRACTOR by the SUBCONTRACTOR.

Monitoring wells installed in the glacial deposits by the SUBCONTRACTOR shall be installed through hollow-stem augers. The inside diameter (ID) of the hollow-stem augers will be 4.25 inches. Except at the wetland locations discussed above, it is anticipated that 2 monitoring wells with 5-foot long screens will be installed in the glacial deposits at each location shown in

Figure 2 during Phase I. One monitoring well will be installed with the top of the screen set approximately 2 feet below the water table, and 1 will be installed with the base of the screen immediately above the top of bedrock.

E. Monitoring Wells in Bedrock

The top of the screen in all bedrock wells installed during Phase I, except the deep well at the downgradient location (MW-6), will be installed approximately 10 feet below the top of the unweathered bedrock. The screens in all bedrock wells will be 5 feet long. The screen in the deep bedrock well at the downgradient location (MW-6) will be set in the second 10-foot interval of bedrock in which no evidence of contamination is observed or 120 feet below ground surface, whichever is shallower. For bidding purposes it is assumed the deep well at MW-6 will be installed 120 feet below the ground surface.

The glacial materials at each bedrock well will be cased with 6-inch diameter Schedule 80 PVC set through 8.25-inch ID (or larger, if approved by the PRIME CONTRACTOR) hollow-stem augers. The casing will extend 2 feet below the base of the unweathered bedrock. A K-packer will be installed on the bottom of the casing to aid in sealing the annular space between the casing and the borehole with a cement/bentonite grout. The cement/bentonite grout will be allowed to set for a minimum of 24 hours before drilling activities resume. For bidding purposes it should be assumed that no standby-time will be awarded while the grout is setting. It is expected that the driller will move to another location while the grout is setting.

At the first 6 bedrock locations drilled, the bedrock will be cored using air rotary drilling techniques. Cores will initially be collected at 5-foot intervals. Coring intervals may be increased to 10 feet if core recovery is consistently greater than 95 percent and if approved by the PRIME CONTRACTOR.

Upon completion of coring, the boreholes will be reamed to approximately 5 inches in diameter then flushed with water to clean the borehole prior to installing the well. Air rotary techniques will be used to drill the 5-inch diameter boreholes for each of the remaining bedrock wells. Two-inch diameter PVC wells will then be installed in each borehole.

F. Leachate Monitoring Wells

If the water table is encountered before the base of the landfill refuse, a monitoring well may be installed to collect a representative sample of the landfill leachate. For bidding purposes it is assumed that a monitoring well will be installed in each landfill refuse boring (3 wells total).

Leachate monitoring wells will be constructed of 2-inch diameter PVC and the base of the well screen will be installed at the base of the landfill refuse. The screen in each leachate monitoring well will be 10-feet long and have 0.010-inch (10 slot) openings.

G. Vertical Ground Water Sampling

Ground water samples will be collected at 5-foot intervals while drilling through glacial deposits at 3 locations during Phase I (MW-3, MW-4, and MW-6). Sampling will be accomplished with temporary, 5-foot long, 2-inch PVC monitoring wells set through the 8.25 ID hollow-stem augers while drilling in preparation for installation of the 6-inch casing. The borehole will be drilled to the depth targeted for the bottom of the well screen, then the screen will be lowered to the bottom of the borehole. The augers will then be raised so that the bottom of the lead auger is approximately 2 feet above the top of the well screen. One temporary well will be dedicated to each well location.

Ground water samples will be collected during coring of the deep bedrock well at the downgradient location (MW-6) during Phase I. Samples will be collected for each 10-foot interval cored. After each 10-foot interval of rock has been cored, a temporary 5-foot long 2-inch diameter PVC well screen with PVC riser will be isolated in that section of bedrock by the SUBCONTRACTOR using a packer at the top of the screen.

The SUBCONTRACTOR will purge at least 3 volumes from each temporary well prior to sample collection by the PRIME CONTRACTOR. The PRIME CONTRACTOR will determine when purging is complete. For bidding purposes it is assumed that 8 intervals will be sampled in the bedrock and a total of 8 intervals will be sampled in the glacial deposits. It is also assumed that 1 hour of time will be required to purge each temporary well (16 hours total) prior to sampling.

H. Aquifer Tests

In situ hydraulic conductivity tests (packer tests) will be performed in the bedrock corehole at the downgradient monitoring well location (MW-6). The packer tests will be performed by the SUBCONTRACTOR on the entire cored interval in accordance with methods described in Test Designation E-18 of the Earth Manual (Bureau of Reclamation, 1974).

The packer tests will be performed in 10-foot intervals from the bottom of the borehole to the top of bedrock. If the hydraulic conductivity within a test interval is too high to obtain meaningful data, the test may be rerun in that zone in 5-foot intervals.

For bidding purposes, it is assumed that a total of 11 intervals will be tested (nine 10-foot intervals and two 5-foot intervals) and setup and testing will require 8 hours.

I. Monitoring Well Development

All of the newly installed monitoring wells will be developed by the SUBCONTRACTOR no earlier than 24 hours after installation. Well development will be performed by surging and pumping water back and forth through the well screen. The wells will be developed to the satisfaction of the PRIME CONTRACTOR. Purged water will be collected in 55-gallon drums, provided by the SUBCONTRACTOR. The drums will be transported and emptied into a larger purge water collection tank in the support area by the SUBCONTRACTOR. The PRIME CONTRACTOR will supply the purge water tank and the SUBCONTRACTOR will provide purge water collection drums. The ultimate disposal of the water will be the responsibility of the PRIME CONTRACTOR.

J. Boring/Well Abandonment

No borings or wells are anticipated to require abandonment. If necessary, well abandonment will be accomplished by cutting the casing off at ground level and filling the well with a cement/bentonite grout from the bottom up using a tremie pipe. Any boring requiring abandonment will be grouted from the bottom of the borehole to the ground surface with a cement/bentonite grout placed through a tremie pipe.

Well and boring abandonment will be performed by the SUBCONTRACTOR as directed by the PRIME CONTRACTOR. For bidding purposes it is assumed that a total of 100 feet of boreholes and 80 feet of wells will require abandonment during this project.

K. Decontamination

All drilling and split-spoon sampling equipment will be decontaminated between samples and sampling locations by the SUBCONTRACTOR to the satisfaction of the PRIME CONTRACTOR. At a minimum, the SUBCONTRACTOR will have a 3-person work crew for each drill rig in order to ensure that timely decontamination can be performed during drilling operations. The SUBCONTRACTOR will provide a steam cleaner for decontamination procedures. Electric power is available on-site. If available on-site electric (120 volts, 20 amps) is insufficient for steam cleaning purposes, it will be the responsibility of the SUBCONTRACTOR to provide a suitable generator.

L. Drilling Location Access

The SUBCONTRACTOR must visit the site during the pre-bid meeting and site visit, prior to submitting the bid, to ensure proper consideration of mobilization between boring locations.

M. Installation of Monitoring Wells - Phase II

It is possible that additional ground water monitoring wells will be installed during a second phase of drilling (Phase II) for this investigation. It is anticipated at this time that 12 additional wells (5 in the deep glacial materials, 5 in the shallow bedrock, and 2 in the deep bedrock) will be installed at locations to be selected based on results of the Phase I investigation and shall be installed according to the methods and specifications described herein. For bidding purposes it should be assumed that no sampling of subsurface materials will be required during the installation of these wells; however, if the PRIME CONTRACTOR requests that samples be collected, these additional samples will be collected at the unit costs submitted for Phase I.

A summary of monitoring wells installed during Phase II is provided in Table 2.

1.05 PERSONAL PROTECTIVE EQUIPMENT AND SAFETY TRAINING:

- A. The PRIME CONTRACTOR will provide the SUBCONTRACTOR with a copy of the Site Health and Safety Plan (provided under separate cover). SUBCONTRACTORS shall comply with the Site Health and Safety Plan as required by the PRIME CONTRACTOR. The PRIME CONTRACTOR may issue a stop work order to the SUBCONTRACTOR for failure of its employees to comply with the Site Health and Safety Plan. The SUBCONTRACTOR will not be paid for the time occurring after notice of a stop work order and before resumption of work.
- B. All SUBCONTRACTOR personnel who enter hazardous sites will be required, at a minimum, to have passed an entry physical examination that meets the OSHA requirements for respirator use (29 CFR 1910.134). The SUBCONTRACTOR agrees to submit to the PRIME CONTRACTOR a certification for each employee assigned to hazardous waste site field activities that said employee has been medically certified by a physician for this work, including the use of a respirator in accordance with the provisions of 29 CFR 1910.134. Certifications of employee medical status must be submitted to the PRIME CONTRACTOR before an employee shall be permitted to work at a hazardous waste site under the Subcontract Documents.

C. All Subcontract personnel engaged in on-site construction work must provide certification of completion of a 40 hour Health and Safety Training Course in accordance with 29 CFR 1910.120. Training shall include, but not be limited to, use of personal protective equipment (including respirators), decontamination, hazard recognition, safe operating procedures, and emergency response.

1.06 SUBMITTALS:

The following submittals will be used in the evaluation of bids:

- A. A list of major equipment to be used on this job, including age of equipment and model shall be provided to the PRIME CONTRACTOR with the bid submittal.
- B. A brief biography of related experience for each employee of the SUBCONTRACTOR to be actively involved in this work.

1.07 REFERENCES:

- A. Applicable Standards:
 - 1. For Rigid PVC Compounds and PVC Plastic Pipe: American Society of Testing Materials (ASTM) D1784 and D1785, respectively.
 - 2. For Soil Investigation and Sampling for Auger Borings: ASTM D1452.
 - 3. For Split-Spoon Sampling: ASTM D1586.
 - 4. For Packer Testing: U.S. Department of the Interior, 1974. Earth Manual, Bureau of Reclamation, U.S. Government Printing Office, Washington, DC

1.08 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

The methods of measurement and basis for payment for work performed by the SUBCONTRACTOR will be in accordance with units and prices submitted in the Unit Price and Lump Sum Bid Form.

1.09 JOB CONDITIONS:

A. Cap each well when unattended.

- B. Cleanup shall promptly follow well installation.
- C. Work shall be performed according to safety precautions described in the Health and Safety Plan (see attached Health and Safety Plan).
- D. All equipment shall arrive on-site in good working order and be kept in good working order throughout the duration of the project.
- E. Drilling and sampling equipment shall be steam-cleaned prior to arrival onsite, upon arrival at the site, between wells, and prior to leaving the site. Decontamination will be performed at the specified decontamination area provided by the PRIME CONTRACTOR (see Figure 6).
- F. Sampling equipment shall be decontaminated by the SUBCONTRACTOR to satisfaction of the PRIME CONTRACTOR.
- G. Water for drilling and decontamination is not available on-site. The PRIME CONTRACTOR shall locate an acceptable water source within 2 1/2 miles of the site. The SUBCONTRACTOR shall be responsible for obtaining and transporting the water.

1.10 FURNISHED PRODUCTS:

A. SUBCONTRACTOR's Responsibilities

- 1. Designate the delivery date for each product in the Construction Schedule.
- 2. Receive and unload the products at the site.
- 3. Promptly inspect products jointly with the PRIME CONTRACTOR, record shortages, and damaged or defective items.
- 4. Handle products at the site, including uncrating and storage.
- 5. Protect the products from exposure to the elements and from damage.
- 6. Assemble, install, connect, and adjust the products as stipulated in the respective Sections of the Specifications.
- 7. Repair or replace items damaged by the SUBCONTRACTOR.

- B. PRIME CONTRACTOR's Responsibilities:
 - 1. Inspect deliveries jointly with the SUBCONTRACTOR.
 - 2. Provide equipment storage area.

1.11 COORDINATION:

- A. Utilities: The PRIME CONTRACTOR will contact Miss Dig and have the utilities locate their facilities on-site.
- B. Work times shall be as follows, except in an emergency:
 - 1. Work will be conducted for approximately 50 hours each week. Under normal conditions this will consist of five (5) 10-hour days, Monday through Friday each week. Saturday work will only be included if directed by the PRIME CONTRACTOR.
 - 2. Night work, from sunset to sunrise, will not be permitted.
 - C. The SUBCONTRACTOR may use more than 1 drilling rig at a time as authorized by the PRIME CONTRACTOR.
 - D. When inspection readiness is declared by the SUBCONTRACTOR and the inspection proves unsuccessful, all costs for the inspection shall be borne by the SUBCONTRACTOR.

1.12 CUTTING AND PATCHING:

- A. SUBCONTRACTOR shall be responsible for all cutting, fitting, and patching required to complete the work or to:
 - 1. Make its several parts fit together properly.
 - 2. Remove and replace defective work.
- B. Any cutting, patching, or altering of the work, or any part of it, by the SUBCONTRACTOR, shall not endanger the work.
- C. The cost for ill-timed, rejected or non-work shall be borne by the party responsible for completing said work.

PART 2 - PRODUCTS AND MATERIALS

2.01 **CASING**:

- A. All well casing will be flush-joint, 2-inch ID, Schedule 40 PVC. The casing joints will be factory-threaded and will be wrapped with teflon tape. No solvents, cements, or adhesive tapes may be used to join sections of pipe.
- B. During the installation of the bedrock wells, a 6-inch ID, flush-joint, Schedule 80 PVC casing will be grouted in place prior to coring or drilling the bedrock. The casing will extent from 2 feet below the top of competent bedrock to the ground surface. A neoprene packer will be utilized above the top of the screen to isolate the interval to be sampled. The casing joints will be factory-threaded. No solvents, cements, or adhesive tapes may be used to join sections of pipe.

2.02 SCREEN:

- A. All screens will consist of factory-threaded, flush-joint, 2-inch ID, Schedule 40 PVC pipe with factory-machined slots.
- B. Slot openings in the screen will be 0.010 inches (10-slot).
- C. A flush-thread cap of the same material as the screen shall be installed on the base of each screen.

2.03 PROTECTIVE CASING:

- A. The outer protective casing will be constructed of anodized aluminum and at least 4 inches in diameter. The protective casing shall have a hinged locking cap.
- B. For all wells, install the protective casing centered around the riser pipe. The protective casing shall extend at least 3.5 feet below the ground surface and to a few inches above the top of the riser pipe.
- C. A 1/4-inch diameter drainage hole will be drilled in the protective casing approximately 6 inches above the top of the concrete pad.
- D. The protective casing shall be steam cleaned by the SUBCONTRACTOR prior to installation.

2.04 WELL CAPS:

Two-inch diameter, threaded and vented caps constructed of Schedule 40 PVC shall be used to cap each well.

2.05 LOCKS:

The locks shall be No. 1 Master locks or equivalent and shall be keyed alike.

2.06 GRAVEL PACK:

The gravel pack shall be comprised of a medium-grained silica sand approved by the PRIME CONTRACTOR.

2.07 BENTONITE SEAL:

The bentonite required for the seal of the wells shall be in pellet form.

2.08 CEMENT/BENTONITE GROUT

The cement/bentonite grout will consist of Portland cement (must conform to ASTM C150, Type I or II) and powdered bentonite. The cement/bentonite grout shall be composed of not more than 6 gallons of water per bag (94 pounds) of cement; 3 to 4 pounds of powdered bentonite per bag of cement will be added to reduce shrinkage. The grout shall be mixed to the satisfaction of the PRIME CONTRACTOR prior to placement in the annular space.

2.09 DRUMS:

55-gallon steel drums approved by the U.S. Department of Transportation shall be provided by the SUBCONTRACTOR, for the use of the SUBCONTRACTOR to collect and transport soil cuttings and purge water to the support area.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Soil and landfill refuse samples will be collected with a 3-inch diameter splitspoon sampler. Soil and landfill refuse samples will be collected continuously or at depths of 2.5, 5, 7.5, and 10 feet, and at 5 foot intervals thereafter as indicated in Table 1. Split-spoon sampling equipment will be decontaminated by the SUBCONTRACTOR between samples and sample locations to the satisfaction of the PRIME CONTRACTOR. The SUBCONTRACTOR shall

- provide clean jars with lids for samples collected for lithologic and refuse descriptions.
- B. Compressed air used for air coring or rotary drilling shall be filtered to prevent the introduction of water, oils, and/or any other foreign substance, downhole, and into the subsurface. Inspection ports shall be provided so that the effectiveness of the air filtration system can be routinely reviewed by the PRIME CONTRACTOR.
- C. Bedrock coring equipment shall be NX size with a split inner core barrel. Hinged, wooden boxes for storing the bedrock core samples shall be supplied by the SUBCONTRACTOR.
- D. The introduction of water into the borehole during drilling or sampling will be minimized. Water for such purposes will be obtained from the approved source and approval of the PRIME CONTRACTOR will be obtained prior to use.
- E. Packer testing equipment shall be provided by, and set up by, the SUBCONTRACTOR as indicated in Figure 7. Testing equipment shall include the following:
 - 1. Pneumatic type packers, each with a length at least 5 times greater than the diameter of the borehole, will be utilized to isolate the test interval.
 - 2. 1 1/4-inch outer diameter pipe shall be utilized for pumping water into the test section. Any swivels and other fittings required shall have a uniform diameter. The use of fittings shall be minimized.
 - 3. The flow meters and pressure gauges utilized for packer testing shall be calibrated prior to use at the site. Documentation of calibration shall be provided to the PRIME CONTRACTOR prior to commencement of the tests.
 - 4. The pressure gauge shall be marked in 1 pound per square inch (PSI) increments.
 - 5. A 1-inch disk type meter shall be used to measure water flows between 1 and 50 gpm. A 4-inch propeller or impeller type meter shall be used to measure flows between 50 and 350 gpm. Each water meter utilized for packer testing shall be equipped with an instantaneous flow meter and a totalizer.

- 6. Nitrogen gas shall be used to inflate the packers. The gas supply tank shall be equipped with a pressure regulator, cylinder pressure gauge, and packer pressure gauge.
- 7. Water to be used for the packer tests shall be from the approved source and will be free of sediments.
- 8. The pump utilized for packer testing shall be of the centrifugal type to minimize pressure fluctuations.
- F. All PVC well materials and casing protectors will be steam cleaned to the PRIME CONTRACTOR's satisfaction before being installed. The SUBCONTRACTOR shall use clean gloves when handling and installing steam cleaned well materials.
- G. A sand pack of clean, medium-grained silica sand shall extend to at least 2 feet and not more than 3 feet above the top of the well screen. A minimum 2-foot bentonite seal shall be installed above the sand pack. A cement/bentonite grout will be used to fill the annular space above the bentonite seal to approximately 1 to 2 feet below the ground surface. A concrete seal shall be placed above the grout to the ground surface to secure the well and the protective casing.
- H. The SUBCONTRACTOR shall develop each well by a method that results in surging water into and out of the screen to the satisfaction of the PRIME CONTRACTOR.
- I. All well cuttings and development water shall be captured and placed in drums provided by the SUBCONTRACTOR. It shall be the responsibility of the SUBCONTRACTOR to containerize the cuttings and development water in 55-gallon drums. The SUBCONTRACTOR shall be responsible for moving the drums from the well site to the support area. Roll-off boxes and large water tanks will be provided by the PRIME CONTRACTOR for temporary storage of soils and purge water at the support area. Ultimate disposal of soils and purge water will be the responsibility of the PRIME CONTRACTOR.
- J. The SUBCONTRACTOR shall decontaminate all drilling and sampling equipment by steam cleaning to the satisfaction of the PRIME CONTRACTOR.

SUMMARY OF WORK

If the tools have visible oil or dirt that cannot be removed by steam cleaning, they may be sprayed with hexane, allowed to air dry, and steam cleaned again prior to reuse.

Proper handling, storage, and collection of hexane, if used, shall be the responsibility of the SUBCONTRACTOR. The PRIME CONTRACTOR will supply the Hexane and will be responsible for disposal of any Hexane used. To minimize decontamination time, the SUBCONTRACTOR shall provide a minimum of 6 complete sets of split-spoon samplers for each rig to be used for sampling of soil or landfill refuse.

K. Plugging or abandonment, if necessary, shall require review by the PRIME CONTRACTOR.

Table 1 **Phase I Monitoring Well Summary** Albion - Sheridan Township Landfill Albion, Michigan

All Units in Feet

Soil Boring/Well Number	Estimated Depth to Water	Estimated Depth to Base of Screen/Boring	Screen Length	Estimated Length of 2" PVC Casing	Estimated Length of 6" PVC Casing	3" Split- Spoon Sampling (see footnotes)	Continuous Bedrock Coring	Vertical Ground Water Sampling
MW-1-SG	30	37	5	34				
MW-1-DG	30	45	5	42				
MW-1-SB	30	62	5	59	50	C	Yes	
MW-2-SG	25	32	5	29				
MW-2-DG	25	40	5	37				314
MW-2-SB	25	57	5	54	45	С	Yes	
MW-3-SG	25	32	5	29				
MW-3-DG	25	40	5	37				Yes
MW-3-SB	25	57	5	54	45	C	Yes	
MW-4-SG	25	32	5	29				
MW-4-DG	25	40	5	37				Yes
MW-4-SB	25	57	5	54	45	C	Yes	
MW-5-SG	25	32	5	29				
MW-5-DG	25	40	5	37				
MW-5-SB	25	57	5	54	40	C	Yes	
MW-6-SG	20	27	5	24				
MW-6-DG	20	35	5	32				
MW-6-SB	20	51	5	48	38			
MW-6-DB	20	120	5	117	38	C	Yes	Yes
MW-7-SG	25	32	5	29				
MW-7-DG	25	40	5	37		S		
MW-8-SG	25	32	5	29				
MW-8-DG	25	40	5	37		S		
MW-8-SB	25	57	5	54	45			
MW-9-SG	25	32	5	29				
MW-9-DG	25	40	5	37		S		
MW-9-SB	25	57	5	54	45			
MW-10-SG	5	10*	3	9				
MW-11-SG	5	10*	3	9				
MW-12-SG	5	10*	3	9				
MW-13-SG	5	10*	3	9				
MW-14-SG	20	27	5	24				
MW-14-DG	20	35	5	32		S		
MW-14-SB	20	51	5	48	38			
MW-15-SG	25	32	5	29				
MW-15-DG	25	45	5	42		S		
MW-15-SB	25	62	5	59	52			
LF-1	25	30	10	22		C		
LF-2	25	30	10	22		C		
LF-3	25	30	10	22		c		

C = Continuous Split-Spoon Sampling

SG = Shallow Glacial

DG = Deep Glacial

SB - Shallow Bedrock

DB - Deep Bedrock Printed: 6/24/92

S = Split-Spoon Sampling At 2.5' Intervals To 10', Every 5' Interval Thereafter

^{* =} Contractor to supply well materials only, no drilling or sampling required.

Table 2
Phase II Monitoring Well Summary
Albion - Sheridan Township Landfill
Albion, Michigan

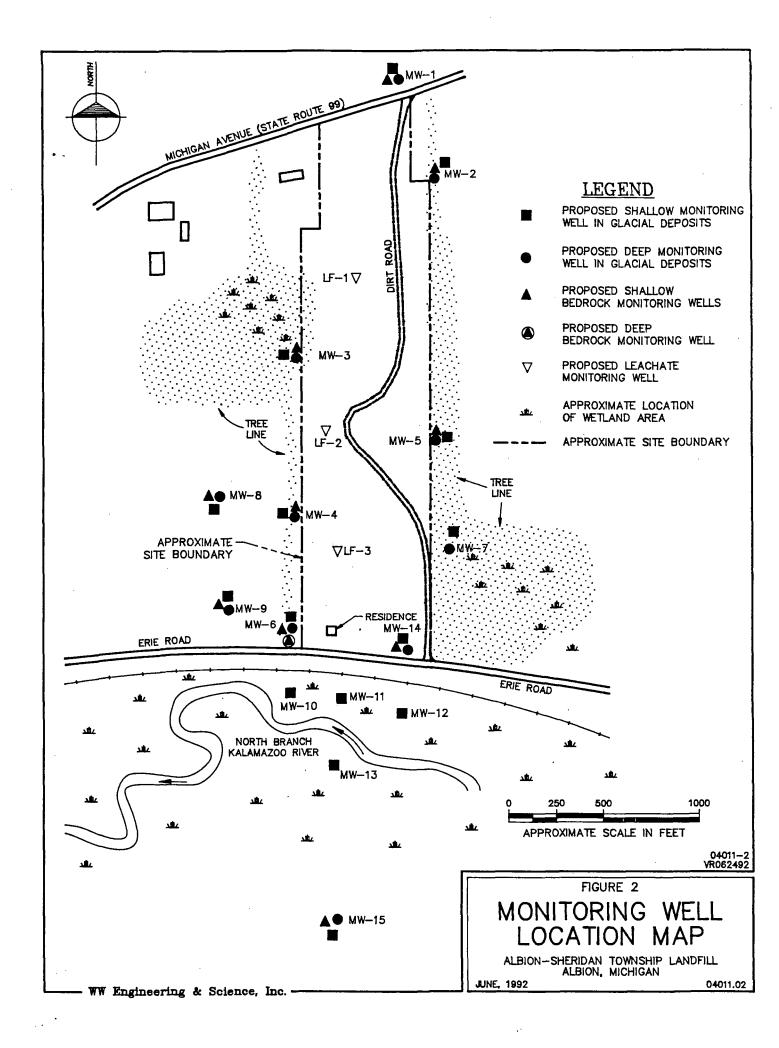
All Units in Feet

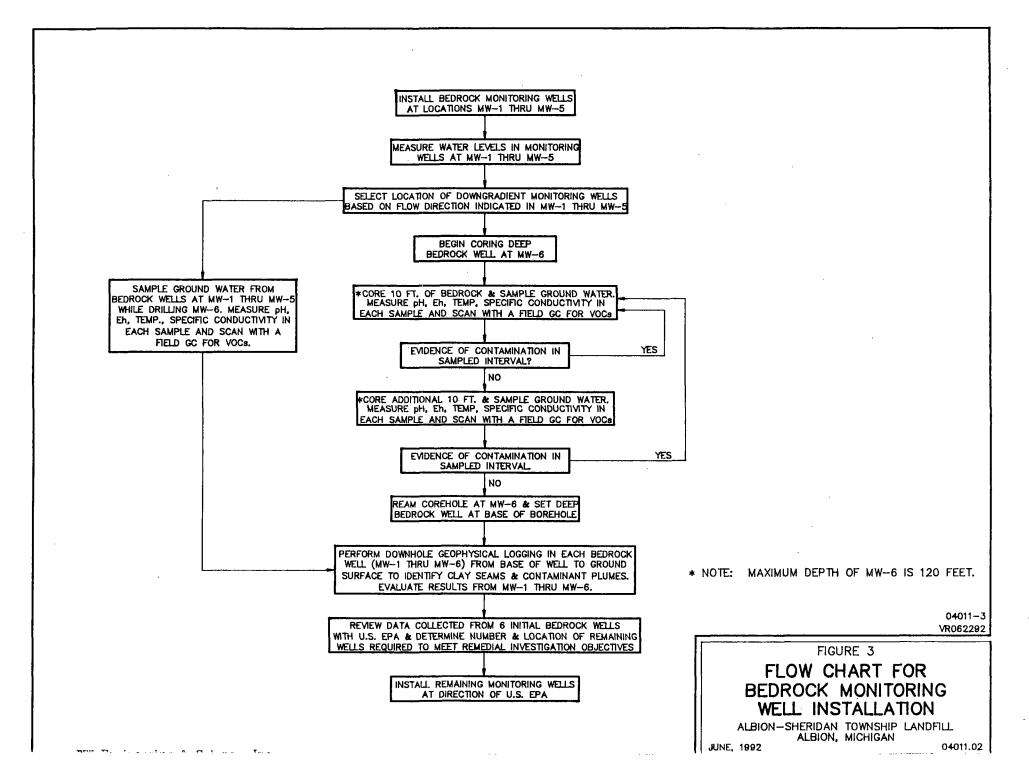
Soil Boring/Well Number	Estimated Depth to Water	Estimated Depth to Base of Screen/Boring	Screen Length	Estimated Length of 2" PVC Casing	Estimated Length of 6" PVC Casing
1-DG	25	40	5	37	
2-DG	25	40	5	37	
3-DG	25	40	5	37	
4-DG	25	40	5	37	
5-DG	25	40	5	37	
6-SB	25	57	5	54	40
7-SB	25	57	5	54	40
8-SB	25	57	5	54	40
9-SB	25	57	5	. 54	40
10-SB	25	57	5	54	40
11-DB	25	120	5	117	40
12-DB	25	120	5	117	40

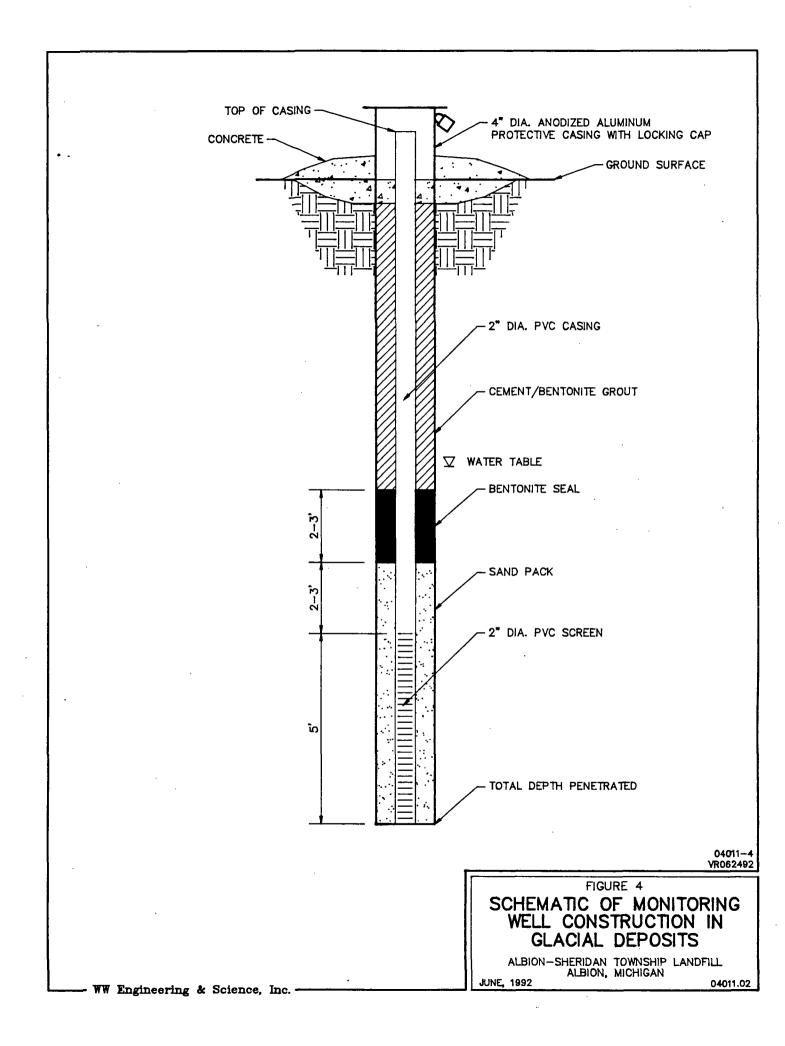
DG = Deep Glacial

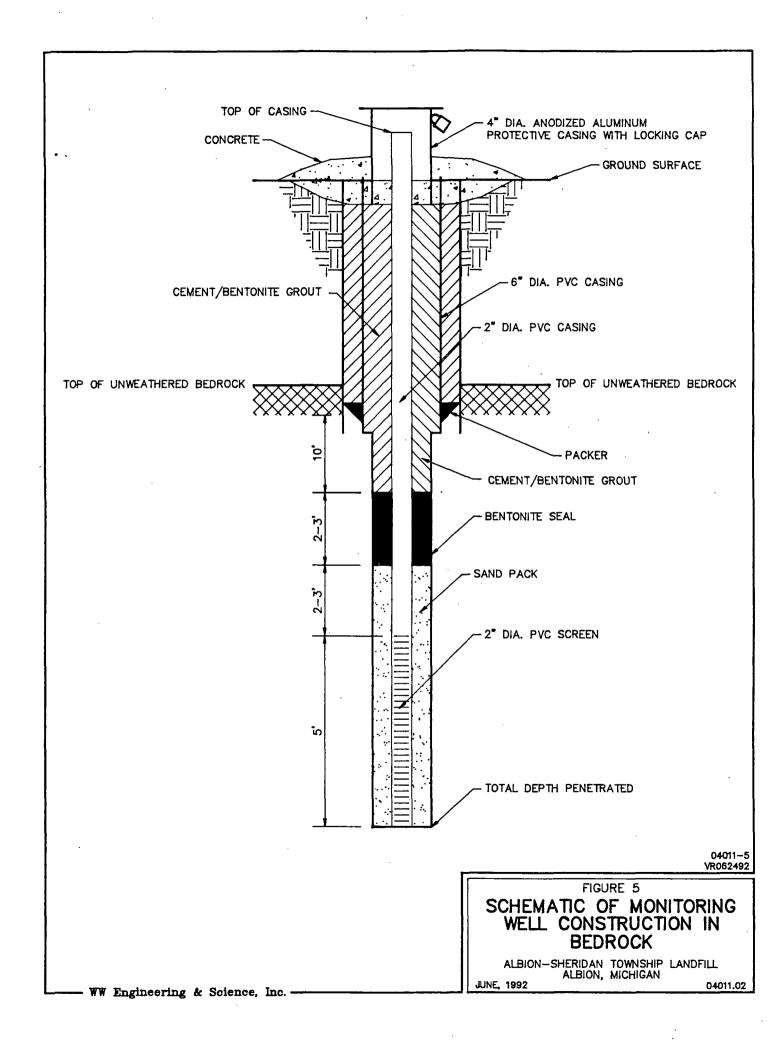
SB = Shallow Bedrock

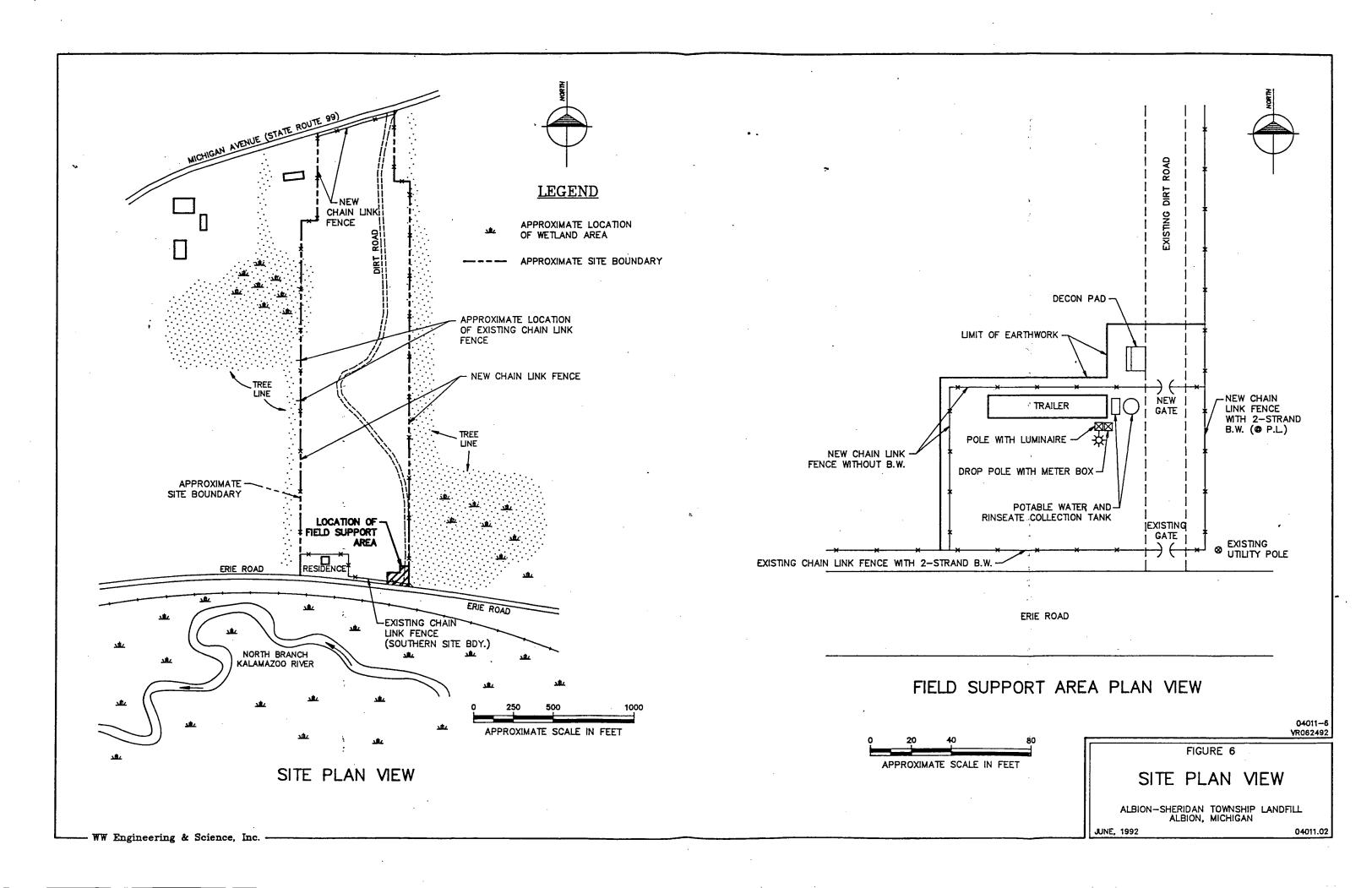
DB = Deep Bedrock

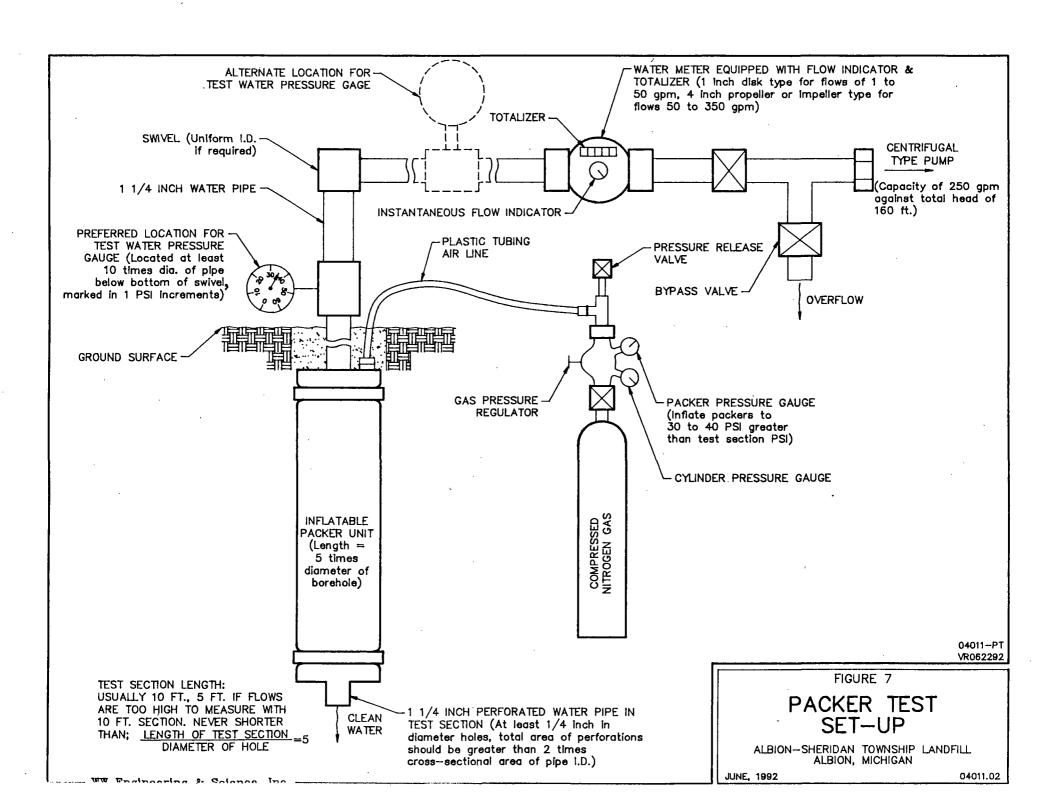












CERTIFICATION OF NONSEGREGATED FACILITIES

- (a) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.
- (b) By the submission of this offer, the Offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.
- (c) The Offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will --
 - (1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;
 - (2) Retain the certifications in the files; and
 - (3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certification for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Company:		
Signature:		
Title:		
Date:		

PREVIOUS CONTRACTS AND COMPLIANCE REPORTS

The Offeror represents that
(a) It has,has not participated in a previous contract or subcontract subjection to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;
(b) It has, has not, filed all required compliance reports; and
(c) Representations indicating submission of required compliance reports, signed b proposed subcontractors, will be obtained before subcontract awards.
Company:
Signature:
Title:
Dotor

CLEAN AIR AND WATER CERTIFICATION

The Offeror certifies that
(a) Any facility to be used in the performance of this proposed contract is is not listed on the Environmental Protection Agency List of Violating Facilities;
(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and (c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.
Company:
Signature:
Title:
Date:

CERTIFICATION REGARDING DEBARRED, SUSPENDED AND INELIGIBLE CONTRACTORS

The Offeror certifies that his firm is not included or pending inclusion on the Consolidated List of Debarred, Suspended, and Ineligible Contractors.

Company:	<u> </u>	 ····
Signature:		
Title:		
Date:		

WW ENGINEERING AND SCIENCE EPA Contract No. 68-W8-0079 Business Classification Certification

The undersigned certify that our company is a:
Small Business (SB)
Small Disadvantaged Business (SDB)
Women-Owned Business (WOB)
Not a SB, SDB, or WOB
8(a) Certified
Yes
No
Company Name:
Address:
Company Official Signature:
Title:
Date

BID SUMMARY

DRILLING AND INSTALLATION OF MONITORING WELLS

Albion-Sheridan Township Landfill

Albion, Michigan

1.	R&R International, Inc. Akron, OH	\$171,619.00
2.	Bowser Morner Dayton, OH	\$193,926.30
3.	Dodson-Lindblom Associates, Inc. Columbus, OH	\$201,609.00
4.	Exploration Technology, Inc. Madison, WI	\$212,845.75
5.	Layne-Northern Company Lansing, MI	\$220,962.00
6.	Testing Engineers & Consultants, Inc. Troy, MI	\$236,204.50
7.	Stearns Drilling Dutton, MI	\$261,463.00
8.	Coleman Engineering Iron Mountain, MI	\$321,268.00



1234 S. CLEVE-MASS ROAD P.O. BOX 4383 AKRON, OHIO 44321 TEL. (216) 666-2200 FAX (216) 666-7874

July 23, 1992

Mr. William Beaton WW Engineering, and Science Inc. 555 Glenwood Hills Parkway, S. E. Post Office Box 874 Grand Rapids, Michigan 49588-9600

Reference:

Additions to Bid Package

Dear Mr. Beaton,

Please find the enclosed above referenced document as you requested. If you should have any questions or comments regarding this matter, please contact the undersigned at (216) 666-2200.

Respectfully,

R & R INTERNATIONAL, INC.

Susan L. Hatfield

Corporate Operations Assistant

/slh

(301) 992-5200

CERTIFICATION REGARDING DEBARRED, SUSPENDED AND INELIGIBLE CONTRACTORS

The Offeror certifies that his firm is not included or pending inclusion on the Consolidated List of Debarred, Suspended, and Ineligible Contractors.

Company: R & R International Inc.

Signature: Corporate Operations Mgr.

Date: July 22, 1992

IT.

CERTIFICATION REGARDING DEBARRED, SUSPENDED AND INELIGIBLE CONTRACTORS

The Offeror certifies that his firm is not included or pending inclusion on the Consolidated List of Debarred, Suspended, and Ineligible Contractors.

Company: R & R International Inc.

Signature: Corporate Operations Mgr.

Date: July 22, 1992

IT.

WW ENGINEERING AND SCIENCE EPA Contract No. 68-W8-0079 Business Classification Certification

The ur	ndersigned certify	y that our company is a:				
<u>X</u>	Small Business (SB)					
X	Small Disadvantaged Business (SDB)					
	Women-Owned Business (WOB)					
	Not a SB, SDB	, or WOB				
8(a) (Certified					
	X Yes					
	No					
			·			
Comp	any Name:	R & R International, Inc.				
Addre	ess:	Post Office Box 4383 Akron, Ohio 44321				
Comp	any Official Sigr	nature: Suw W				
Title:_		Corporate Operations Manager				
Date:		July 22, 1992				

CERTIFICATION OF NONSEGREGATED FACILITIES

- (a) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.
- (b) By the submission of this offer, the Offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.
- (c) The Offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will --
 - (1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;
 - (2) Retain the certifications in the files; and
 - (3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certification for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Company:_	R & R International, In	ıc.
Signature:_	Burw. 2	2
Title:	Corporate Operations Mg	,r
Title:		<u>7. •</u>
Date:	July 22, 1992	

ITE

PREVIOUS CONTRACTS AND COMPLIANCE REPORTS

The Offeror represents that
(a) It has, _HAShas not participated in a previous contract or subcontract subjection to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;
(b) It has, HAS has not, filed all required compliance reports; and
(c) Representations indicating submission of required compliance reports, signed b proposed subcontractors, will be obtained before subcontract awards.
Company: R & R International Inc.
Signature: Www.
Title: Corporate Operations Mgr.
Date: July 22, 1992

CLEAN AIR AND WATER CERTIFICATION

ITE

The Offeror certifies that					
(a) Any facility to be used in the performance of this proposed contract is NOT is not listed on the Environmental Protection Agency List of Violating Facilities;					
(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and					
(c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.					
Company: R & R International, Inc.					
Signature:					
Title: Corporate Operations Mgr.					
Date: July 22, 1992					



1234 S. CLEVE-MASS ROAD P.O. BOX 4383 AKRON, OHIO 44321 TEL. (216) 666-2200 FAX (216) 666-7874

July 20, 1992

Carl A. Masom ARCS Program Manager WW Engineering and Science, Inc. 555 Glenwood Hills, Parkway S. E. Post Office Box 874 Grand Rapids, Michigan 49588-9600

Reference:

Proposal for U.S. EPA Arch Contract Number 68-W8-0079

Drilling and Installation of Monitoring Wells

Dear Mr. Masom,

Please find the enclosed documents in support of the above referenced project:

- One (1) copy of the Form of proposal which includes the Schedule of Unit Prices for Phase I, and Phase II.
- One (1) copy of the Bid Questionnaire (Article 1 Article 10)
- One (1) copy of our Certificate of Insurance.
- One (1) copy of our Workmen's Compensation Certificate.
- One (1) copy of all major Drilling Equipment to be used on this job.
- One (1) copy of Mr. Todd Bromley's Resume.
- One (1) copy of Mr. Robert Krukow's Resume.
- One (1) copy of R & R International's Standard 254 Form



Mr. Carl Malsom WW Engineering & Science, Inc. July 20, 1992 Page 2 of 2

Per your conversation with Ms. Susan Hatfield, on Monday, July 20, 1992 a copy of our Bid Bond will be faxed to your attention on July 21, 1992 before 4:00 pm. The original Bid Bond will be mailed the same day via Federal Express to your attention. Should you have any questions, please feel free to contact the undersigned at (216) 666-2200.

Respectfully,

R & R INTERNATIONAL, INC.

Shuil W. Hunning/Sch.
Bruce W. Panning

Corporate Operations Manager

BWP/slh

BID TO BE SUBMITTED ON THIS COPY

UNIT PRICE AND LUMP SUM BID FORM

<u>IŢEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
	Phase I.				
1.	MOBILIZATION/DEMOBILIZATION (Two (2)	Rigs)	·	,	
	Furnish drilling rig(s) capable of using hollow-stem augers and air rotary drilling and sampling to advance well borings through the unconsolidated sediments and sedimentary bedrock formations; supply trucks, drill crews, and all necessary equipment for drilling, sampling, well development, decontamination (water truck, steam cleaner, brushes, buckets, soap, water, etc.) and well completion; includes cleanup prior to site departure.	Lump Sum	1	\$_3000.00	\$_3000.00
2.	STANDBY TIME For 1 crew as directed by the PRIME CONTRACTOR	Per Crew-hour	40 hour	<u>\$ 120.00</u>	\$ 4800.00
3.	DAILY PERSONNEL PROTECTION & PER DIEM Furnish personal health and safety equipment and personal decontamination equipment for drill crew and decontaminate personnel. Provide food and lodging for personnel.				

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
	LEVEL D	Per Crew-day	95 days	\$ 120.00	\$ <u>11,400.</u> 00
	LEVEL C	Per Crew-day	5 days	\$ <u>144.00</u>	<u>\$ 720.00</u>
4.	DRILL RIG AND EQUIPMENT DECONTAMINATION BETWEEN LOCATIONS	N Per Move Between Locations	47 moves	<u>\$ 150.00</u>	\$ <u>7050.00</u>
5.	HOLLOW-STEM AUGER DRILLING AND SAMPLING	G			
5A.	LANDFILL BORINGS (LF-1, LF-2, and LF-3) a) Hollow-stem auger drilling (4.25-inch ID) with continuous split-spoon sampling using a 3-inch ID x 2-foot long sampler to the bottom of the borehole.				
	LEVEL D (unit price information only)	Per Foot		<u>\$ 17.50</u>	
	LEVEL C	Per Foot	90 Feet	\$	<u>\$_1800.00</u>
	LEVEL B (unit price information only)	Per Foot		<u>\$_24.00</u>	
	b) Sample Jars - Provide clean sample jars and lids for samples collected.	Per Dozen	4 Dozen	<u>\$_4.50</u>	\$_18. 00

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
5B.	DEEP GLACIAL DEPOSIT WELL BORINGS a) Hollow-stem auger drilling (4.25-inch ID) to provide borehole to set a deep glacial well at 5 locations; split-spooning at 2.5 feet intervals to 10 feet, every 5 feet thereafter.				
	LEVEL D	Per Foot	200 Feet	<u>\$15.00</u>	\$ <u>3000.00</u>
	LEVEL C (unit price information only)	Per Foot		\$ 17.50	
	b) Sample Jars - Provide clean sample jars and lids for samples collected.	Per Dozen	5 Dozen	\$ 4.50	\$ 22.50
	 c) Hollow-stem auger drilling (5.25-inch ID) to provide borehole to set a deep glacial well at 6 locations; no sampling required. 	,			
	LEVEL D	Per Foot	240 Feet	\$ 8.00	<u>\$1920.00</u>
	LEVEL C (unit price information only)	Per Foot		\$ 10.50	
5C.	11 SHALLOW GLACIAL DEPOSIT WELL BORINGS Hollow-stem augering (4.25-inch ID) No sampling required.	.			
	LEVEL D	Per Foot	347 Feet	\$.00	\$ 776.00
	LEVEL C (Unit Price information only)	Per Foot		\$ 0.50	

UNIT PRICE AND LUMP SUM BID FOR INSTALLATION OF MONITORING WELL BORINGS ALBION-SHERIDAN TOWNSHIP LANDFILL SITE

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED QUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
2 feet into the to	INCH CASING gering (8.25-inch ID) op of bedrock at 6 locations. ich x 2-foot split-spoon sampling				
LEVEL D		Per Foot	240 Feet	<u>\$26.50</u>	\$ <u>6360.00</u>
LEVEL C (unit pri	ce information only)	Per Foot		\$ <u>29.00</u>	
b) Sample Jars - pr and lids for sample	ovide clean sample jars s collected.	Per Dozen	10 Dozen	\$ 4.50	\$ <u>45.00</u>
	gering (8.25-inch ID) op of bedrock at 5 locations. quired.			·	
LEVEL D		Per Foot	200 Feet	<u>\$15.00</u>	\$ <u>3000.00</u>
LEVEL C (unit pri	ce information only)	Per Foot		\$ <u>18.00</u>	

5E. ADDITIONAL SAMPLES

a) Collect soil samples using 3-inch ID x 2-foot long split-spoon samplers. Collect through
 4.25 ID hollow-stem augers in boreholes drilled for well installation as directed by PRIME CONTRACTOR.

		REQUIRED	ESTIMATED		EXTENDED
<u>ITEM</u>		METHOD OF PAYMENT	<u>QUANTITY</u>	<u>UNIT PRICE</u>	TOTAL AMOUNT
	LEVEL D	Per Sample	45 Samples	<u>\$25.00</u>	<u>\$1125.00</u>
	LEVEL C (unit price information only)	Per Sample		\$ 30.00	
	 b) Sample Jars - provide clean sample jars and lids for samples collected. 	Per Dozen	4 Dozen	<u>\$4.50</u>	<u>\$18.00</u>
5F.	SHELBY TUBE SAMPLES				
	Collect Thin-Walled (Shelby tube) samples using a 3-inch diameter, 3-foot long. Seal and label the tube in accordance with ASTM D1587.		·		
	LEVEL D	Per Sample	20 Samples	\$ _60.00	\$ <u>1200.00</u>
	LEVEL C (unit price information only)	Per Sample		\$ 75.00	
6.	BEDROCK DRILLING AND SAMPLING				
6A.	BEDROCK CORING a) NX coring, continuous from the top of bedrock to the bottom of the borehole using a split inner core barrel.				
	LEVEL D	Per Foot	170 Feet	<u>\$ 20.00</u>	<u>\$_3400.00</u>
	LEVEL C (unit price information only)	Per Foot		\$ 27.00	
	b) Wooden Core Boxes - provide new, hinged wooden core boxes to contain bedrock cores.	Per Box	23 Boxes	\$_20.00	<u>\$ 460.00</u>

<u>ITEM</u>		REQUIRED <u>METHOD OF PAYMENT</u>	ESTIMATED OUANTITY	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
6B.	AIR ROTARY DRILLING				
	 a) Air Rotary Bedrock Drilling - Ream bedrock corehole with 4 7/8-inch tri-cone roller bit. 		·		
	LEVEL D	Per Foot	170 Feet	<u>\$18.00</u>	\$ <u>3060.00</u>
	LEVEL C (unit price information only)	Per Foot		<u>\$ 21.50</u>	
	b) Air Rotary Bedrock Drilling Drill borehole in bedrock with 4 7/8-inch tri-cone roller bit. No sampling required.			•	
	LEVEL D	Per Foot	83 Feet	\$20.00	\$1660.00
	LEVEL C (unit price information only)	Per Foot		<u>\$24.00</u>	
7.	VERTICAL GROUND WATER SAMPLING				
7 A .	GLACIAL AQUIFER Provide and install temporary well of 2-inch diameter PVC casing with a 5-foot long screen to collect a ground water sample from below the 4.25-inch ID hollow-stem augers. One well will be dedicated to each borehole (2 boreholes).				
	LEVEL D	Per Sample	8 Samples	\$150.00	\$1200.00
,	LEVEL C (unit price information only)	Per Sample		\$200.00	

		REQUIRED	ESTIMATED		EXTENDED
<u>ITEM</u>		METHOD OF PAYMENT	OUANTITY	<u>UNIT PRICE</u>	TOTAL AMOUNT
7B.	BEDROCK AQUIFER Provide and install temporary well of 2-inch diameter PVC casing with a 5-foot long screen to collect ground water samples from the bedrock corehole using a packer to isolate the screened interval. One well will be dedicated to the corehole (1 corehole).				
	LEVEL D	Per Sample	8 Samples	<u>\$ 700.00</u>	<u>\$ 5600.00</u>
	LEVEL C (unit price information only)	Per Sample		<u>\$ 850.00</u>	
7C.	PURGING Develop temporary well prior to sample collection. Collect purge water and transport to support area.	·			·
	LEVEL D	Per Hour	16 Hours	<u>\$_120.00</u>	<u>\$ 1920.00</u>
	LEVEL C (unit price information only)	Per Hour		\$_145.00	
8.	PACKER TESTING Provide packer assembly, set up, and test the conductivity of the bedrock according to test designation E-18 as provided.				
	LEVEL D	Per Hour	8 Hours	<u>\$150.00</u>	<u>\$1200.00</u>
	LEVEL C (unit price information only)	Per Hour		<u>\$ 180.00</u>	• ~ ~ ~ ~ ~ ·

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
9.	WELL CASING				
9A.	6-INCH ID CASING Furnish and install 6-inch diameter Schedule 80 PVC, flush joint surface casing for bedrock wells. Install through 8.25-inch hollow-stem augers with neoprene K-packer at base.				
	LEVEL D	Per Foot	481 Feet	\$ 14.00	\$6734.00
	LEVEL C (unit price information only)	Per Foot		\$ <u>16.75</u>	
9B.	2-INCH ID CASINGa) Furnish and install 2-inch ID, Schedule 40 PVC, flush joint casing.	·			
	LEVEL D	Per Foot	1,442 Feet	s 8.00	<u>\$11,536.00</u>
,	LEVEL C (unit price information only)	Per Foot		\$	
	b) Furnish 2-inch diameter, Schedule 40 PVC flush joint casing for 4 wells installed by PRIME CONTRACTOR (material only).	Per Foot	36 Feet	\$3.00	\$1.08,00

ITEM		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
10.	WELL SCREEN				
10A.	10-FOOT LONG Furnish and install 10-foot long, 2-inch ID continuous 0.010 slot, flush joint, Schedule 40 PVC screen through 4.25-inch hollow-stem augers.				
	LEVEL D	Per Screen	3 Screens	\$ <u>40.00</u>	<u>\$120.00</u>
	LEVEL C (unit price information only)	Per Screen		<u>\$ 48.00</u>	
10B.	5-FOOT LONG Furnish and install 5-foot long, 2-inch ID, continuous 0.010-inch slot, flush joint, Schedule 40 PVC screens.				·
	LEVEL D	Per Screen	33 Screens	\$ 20.00	\$ 660.00
	LEVEL C (unit price information only)	Per Screen		<u>\$24.00</u>	
10C.	3-FOOT LONG Furnish 3-foot long, 2-inch ID Schedule 40 PVC screen for hand augered borehole (material only)	Per Screen	4 Screens	<u>\$ 15.00</u>	<u>\$60.00</u>

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED <u>QUANTITY</u>	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
11.	SAND PACK a) Glacial and Leachate Wells - Furnish and install sand pack for annular space around well screens through hollow-stem augers.			· .	
	LEVEL D	Per Foot	190 Feet	\$ _4.00	\$ 760,00
	LEVEL C (unit price information only)	Per Foot		\$_4. 75	
	b) Bedrock Wells - Furnish and install sand pack for annular space around well screens in bedrock boreholes.				
	LEVEL D	Per Foot	77 Feet	\$ <u>3.50</u>	<u>\$ 269.50</u>
	LEVEL C (unit price information only)	Per Foot		\$ 4.25	
	 c) Miscellaneous - Furnish sand pack materials for 4 wells installed by PRIME CONTRACTOR (materials only). 	Per Bag	2 Bags	<u>\$_7.50</u>	<u>\$ 15.00</u>
12.	CEMENT/BENTONITE GROUT			·	
12A.	CEMENT/BENTONITE GROUT a) Furnish and install cement/bentonite grout in annular space for wells through hollow-stem augers.	•		·	

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
	LEVEL D	Per Foot	637 Feet	\$ 2.75	\$ 1751.75
	LEVEL C (Unit Price information only)	Per Foot		<u>\$ 3.50</u>	
	b) Furnish and install cement/bentonite grout in annular space for bedrock wells.				
	LEVEL D	Per Foot	589 Feet	<u>\$ 2.50</u>	<u>\$ 1472.50</u>
	LEVEL C (Unit Price information only)	Per Foot		\$ 3.00	
12B.	BENTONITE SEAL a) Furnish and install 2-foot bentonite pellet seal during well installation.				
	LEVEL D	Per Foot	70 Feet	<u>\$ 17.00</u>	<u>\$ 1190.00</u>
	LEVEL C (Unit Price information only)	Per Foot		<u>\$ 20.50</u>	
	b) Furnish bentonite pellets for each of 4 wells installed by the PRIME CONTRACTOR (material only).	Per Bucket	2 Buckets	35.00 \$	70.00 \$

ITEM		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
12C.	ABANDONMENT a) Wells - Remove all above ground well materials and tremie. Grout the borehole with cement/bentonite grout from bottom to top.				
	LEVEL D	Per Foot	40 Feet	<u>\$_5.00</u>	\$ 200.00
	LEVEL C (unit price information only)	Per Foot		<u>\$_6.00</u>	
	b) Borings - grout borehole with cement/bentonite grout from bottom to top through tremie pipe.				
	LEVEL D	Per Foot	50 Feet	\$ 6.00	<u>\$ 300.00</u>
,	LEVEL C (unit price information only)	Per Foot		\$ _7.25	
13.	WELL COMPLETION				
13A.	WELL RISER END CAPS, LOCKS, AND KEYS	Per Well	40 Wells	<u>\$ 30.00</u>	\$ 1200.00
13B.	PROTECTIVE CASINGS Furnish and install hinged, anodized, aluminum protective casing, with locking cap. Installation includes securing protective casing in cement (including cement).	Per Well	40 Wells	s 350.00	\$ 14000.00
	comons (morading comons).	101 11011	70 HOLG	Ψ	<u> </u>

ITEM		REQUIRED METHOD OF PAYMENT	ESTIMATED QUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
13C.	BUMPER POSTS Furnish and install concrete filled bumper posts 4 inches in diameter which extend 3 feet above ground surface and 3.5 feet below ground surface as directed by the PRIME CONTRACTO to protect monitoring wells.	R Per Post	30 Posts	s 35.00	§ 1050.00
14.	WELL DEVELOPMENT Development of installed permanent wells. Capture and contain purge water. Transport drums of purge water to support area.				V
	LEVEL D	Per Hour	111 Hours	<u>\$_120.00</u>	\$ <u>13,320.0</u> 0
	LEVEL C	Per Hour	9 Hours	\$_145.00	\$ <u>1,305.00</u>
15.	DRUMS				
	Provide 55-gallon steel drums approved by the U.S. Department of Transportation to store soil cuttings and development water.	Per Drum	80 Drums	<u>\$ 35.00</u>	<u>\$ 2800.00</u>
16.	ESTIMATE OF TIME REQUIRED FOR PHASE I MONITORING WELL/SOIL BORING INSTALLATION	23 NS	work days		
				SUBTOTAL PHASE I	\$ 125,676,25

ITEM		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
	Phase II	·			
17.	MOBILIZATION/DEMOBILIZATION				
	Furnish drilling rig(s) capable of using hollow-stem augers and air rotary drilling and sampling to advance well borings through the unconsolidated sediments and sedimentary bedrock formations; supply trucks, drill crews, and all necessary equipment for drilling, well development, decontamination (water truck, steam cleaner, brushes, buckets, soap, water, etc.) and well completion; includes cleanup prior to site departure.	Lump Sum	1	\$ 3000.00	\$ <u>3000.00</u>
18.	STANDBY TIME For 1 crew as directed by the PRIME CONTRACTOR	Per Crew-hour	12 Hours	<u>\$_120.00</u>	<u>\$_1440.00</u>
19.	DAILY PERSONNEL PROTECTION & PER DIEM Furnish personal health and safety equipment and personal decontamination equipment for drill crew and decontaminate personnel. Provide food and lodging for personnel.				

TOTAL A	•	REQUIRED	ESTIMATED	I BUT DDIOC	EXTENDED
<u>ITEM</u>		METHOD OF PAYMENT	OUANTITY	<u>UNIT PRICE</u>	TOTAL AMOUNT
	LEVEL D	Per Crew-day	45 days	<u>\$120.00</u>	\$ <u>5400.00</u>
	LEVEL C (unit price information only)	Per Crew-day		<u>\$145.00</u>	·
20.	DRILL RIG AND EQUIPMENT DECONTAMINATION BETWEEN LOCATIONS	N Per Move Between Locations	20 moves	\$ <u>150.00</u>	\$3,000.00
21.	HOLLOW-STEM AUGER DRILLING				
21A.	5 DEEP GLACIAL DEPOSIT WELL BORINGS Hollow-stem auger drilling, (4.25-inch ID), no sampling required.				
	LEVEL D	Per Foot	200 Feet	\$8.00	\$1600.00
	LEVEL C (unit price information only)	Per Foot	•	<u>\$9.75</u>	,
21B.	BORINGS FOR 6-INCH CASING a) Hollow-stem augering (8.25-inch ID) 2 feet into the top of bedrock at 7 locations.				
	No sampling required.				4200
	LEVEL D	Per Foot	280 Feet	\$ <u>15.00</u>	\$ <u>42.00</u>
	LEVEL C (unit price information only)	Per Foot		<u>\$_18.00</u>	

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	UNIT PRICE	EXTENDED TOTAL AMOUNT
21C.	ADDITIONAL SAMPLES a) Collect soil samples using 3-inch ID x 2-foot long split-spoon samplers. Collect through 4.25 ID hollow-stem augers in boreholes drilled for well installation as directed by PRIME CONTRA	CTOR.			
	LEVEL D (unit price information only)	Per Sample		\$ <u>25.00</u>	
	LEVEL C (unit price information only)	Per Sample		\$_30.00	
	 b) Sample Jars - provide clean sample jars and lids for samples collected. (unit price information only) 	Per Dozen		\$ <u>4.50</u>	·
22.	BEDROCK AIR ROTARY DRILLING				
	 a) Air Rotary Bedrock Drilling - Drill borehole in bedrock with 4 7/8-inch tri-cone roller bit. No sampling required. 			·	•
	LEVEL D	Per Foot	245 Feet	<u>\$ 20.00</u>	<u>\$4,900.00</u>
	LEVEL C (unit price information only)	Per Foot		<u>\$ 24.00</u>	V

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
23.	WELL CASING			•	
23A.	6-INCH ID CASING Furnish and install 6-inch diameter Schedule 80 PVC, flush joint surface casing for bedrock wells. Install through 8.25-inch hollow-stem augers with neoprene K-packer at base.				
	LEVEL D	Per Foot	280 Feet	\$_14.00	\$_3920.00
	LEVEL C (unit price information only)	Per Foot		\$ <u>16.75</u>	
23B.	2-INCH ID CASINGa) Furnish and install 2-inch ID, Schedule 40 PVC, flush joint casing.				
	LEVEL D	Per Foot	689 Feet	\$ <u>8.00</u>	\$ <u>5512.00</u>
	LEVEL C (unit price information only)	Per Foot		\$ 9.75	
24.	WELL SCREEN				
24A.	5-FOOT LONG Furnish and install 5-foot long, 2-inch ID, continuous 0.010-inch slot, flush joint, Schedule 40 PVC screens.				

		REQUIRED	ESTIMATED		EXTENDED
<u>ITEM</u>		METHOD OF PAYMENT	<u>OUANTITY</u>	UNIT PRICE	TOTAL AMOUNT
	LEVEL D	Per Screen	12 Screens	\$20.00	\$240.00
	LEVEL C (unit price information only)	Per Screen		\$ <u>24.00</u>	
25.	SAND PACK a) Glacial Wells - Furnish and install sand pack for annular space around well screens through hollow-stem augers.				
	LEVEL D	Per Foot	35 Feet	\$ <mark>4.00</mark>	\$ <u>140.00</u>
	LEVEL C (unit price information only)	Per Foot		\$4.75	
•	 b) Bedrock Wells - Furnish and install sand pack for annular space around well screens in bedrock boreholes. 				
	LEVEL D	Per Foot	49 Feet	\$3.50	\$ 171.50
	LEVEL C (unit price information only)	Per Foot		\$ 4.25	•
26.	CEMENT/BENTONITE GROUT			·	
26A.	cement/bentonite grout in annular space for wells through hollow-stem augers.				•

<u>ITEM</u>	•	REQUIRED METHOD OF PAYMENT .	ESTIMATED OUANTITY	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
	LEVEL D	Per Foot	155 Feet	<u>\$ 2.75</u>	\$ <u>426.25</u>
	LEVEL C (Unit Price information only)	Per Foot		\$3.50	
	b) Furnish and install cement/bentonite grout in annular space for bedrock wells.				
	LEVEL D	Per Foot	462 Feet	<u>\$ 2.50</u>	<u>\$1155.00</u>
	LEVEL C (Unit Price information only)	Per Foot		\$3.00	
26B.	BENTONITE SEAL Furnish and install 2-foot bentonite pellet seal during well installation.				
	LEVEL D	Per Foot	24 Feet	\$ 17.00	\$ <u>408.00</u>
	LEVEL C (Unit Price information only)	Per Foot		\$20.50	
26C.	ABANDONMENT a) Wells - Remove all above ground well materials and tremie. Grout the borehole with cement/bentonite grout from bottom to top.				
	LEVEL D	Per Foot	40 Feet	\$ <u>5.00</u>	\$ <u>200.00</u>
	LEVEL C (unit price information only)	Per Foot		<u>\$6.00</u>	

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	<u>UNIT PRICE</u>	EXTENDED TOTAL AMOUNT
	b) Borings - grout borehole with cement/bentonite grout from bottom to top through tremie pipe.				
	LEVEL D	Per Foot	50 Feet	<u>\$6.00</u>	<u>\$</u> 300.00
	LEVEL C (unit price information only)	Per Foot		. \$ 7.25	
27.	WELL COMPLETION				
27A.	WELL RISER END CAPS, LOCKS, AND KEYS	Per Well	12 Wells	<u>\$30.00</u>	\$ <u>360.00</u>
27B.	PROTECTIVE CASINGS Furnish and install hinged, anodized, aluminum protective casing, with locking cap. Installation includes securing protective casing in cement (including cement).	Per Well	12 Wells	\$ <u>350.00</u>	\$ <u>4200.00</u>
27C.	BUMPER POSTS Furnish and install concrete filled bumper posts 4 inches in diameter which extend 3 feet above ground surface and 3.5 feet below ground surface as directed by the PRIME CONTRACTO		10 Pooto	\$ 35 . 00	\$ 350 . 00
	to protect monitoring wells.	Per Post	10 Posts	\$33.00	\$ 330.00

UNIT PRICE AND LUMP SUM BID FOR INSTALLATION OF MONITORING WELL BORINGS ALBION-SHERIDAN TOWNSHIP LANDFILL SITE

<u>ITEM</u>		REQUIRED METHOD OF PAYMENT	ESTIMATED OUANTITY	<u>UNIT PRICE</u> T	EXTENDED OTAL AMOUNT
28.	WELL DEVELOPMENT Development of installed permanent wells. Capture and contain purge water. Transport drums of purge water to support area.				
	LEVEL D	Per Hour	36 Hours	\$ <u>120.00</u>	\$4320.00
	LEVEL C (unit price information only)	Per Hour		<u>\$ 145.00</u>	
29.	DRUMS				
	Provide 55-gallon steel drums approved by the U.S. Department of Transportation to store soil cuttings and development water.	Per Drum	20 Drums	\$ <u>35.00</u>	\$ <u>700.00</u>
30.	ESTIMATE OF TIME REQUIRED FOR PHASE II MONITORING WELL/SOIL BORING INSTALLATION	NS	13 work day	s	
•				SUBTOTAL PHASE II	\$ <u>45,942.7</u> 5
				SUM OF EXTENDED TOTALS AND BID PRICE THAT IS	\$ <u>171,619</u> ,00

ENTERED ON PAGE 00300.1

ON THIS COPY

SECTION 00300

July 20, 1992

WW Engineering and Science 5555 Glenwood Hills Parkway, S.E. Grand Rapids, MI 49508 Drilling and Installation of Monitoring Wells Albion-Sheridan Township Landfill Site Subcontract 04011 - No. 3

ARTICLE 1-CONTRACT PRICE

1.1 Having carefully examined the site of the proposed Work; being fully informed of the conditions to be met in the prosecution and completion of the Work; having read and examined the Project Manual and Drawings applicable to this Work; agreeing to be bound accordingly; the BIDDER proposes to perform all services, and furnish all necessary labor, materials, and equipment to complete the construction indicated on the Drawings and described in the Project Manual for the amounts shown on the Unit Price and Lump Sum Bid Form included at the end of this section and as summarized below:

For all work described in the Project Plans and Specifications and specifically summarized in Section 01010 - Summary of Work.

Bid Price One hundred seventy one thousand six hundred and Dollars (\$171,619.00) nineteen dollars

ARTICLE 2-CONTRACT TIME

- 2.1 If awarded the Contract, BIDDER agrees to prosecute the Phase I work regularly and diligently to insure full completion in one hundred twenty (120) days.
- 2.2 The Undersigned agrees that the amount of liquidated damages shall be the sum of one thousand (\$1,000) for each day that expires after the completion date until the Work is complete.

ARTICLE 3-RECEIPT OF ADDENDA

3.1 Receipt of Addenda July 6, 1992 through July 20, 1992 is acknowledged.

ARTICLE 4 - BIDDER'S OUALIFICATIONS

4.1 The BIDDER agrees to furnish, upon request, a list of projects of a similar nature completed in the last 3 years.

ARTICLE 5-WAIVER

- 5.1 The BIDDER certifies the Bid Price is correct and complete and that all information given in or furnished is correct, complete and submitted as intended. The BIDDER waives any right to:
 - 5.1.1 Claims he may now have or which may accrue to him.
 - 5.1.2 Refuse to execute the Contract if awarded to him.
 - 5.1.3 Demand the return of the Bid Security.
 - 5.1.4 Be relieved from any obligation by reason of any errors, mistakes or omissions, subject to right of withdrawal of Bid as provided in the Instructions to Bidders.

ARTICLE 6-BID NON-COLLUSIVE

6.1 The BIDDER certifies that this Bid is fair, genuine and not collusive or sham, and has not in any manner, directly or indirectly, agreed or colluded with any other person, firm or association to submit a sham Bid, to refrain from bidding, or in any way to fix the amount of this Bid or that of any other BIDDER, or to secure any advantage against the PRIME CONTRACTOR. The BIDDER further certifies that no officer or employee of the PRIME CONTRACTOR is personally or financially interested, directly or indirectly, in this Bid.

	interested, directly or indirectly, in this Bid.								
ARTICLE 7-BID SECURITY									
7.1	The Bid Security accompanying this Bid is in the following form:								
	7.1.1 Surety Bid Bond 7.1.2 Certified Check 7.1.3 Bank Draft 7.1.4 Cashier's Check 7.1.5 Sight Draft X to follow under seperate cover								
ARTICLE 8-	JOINT BID INFORMATION	I							
8.1	Joint BIDDERS shall complete the following certificate:								
8.1.1	Firm Name	City	State						
N/A									

8.1.2	We hereby authorizebehalf of the firms listed		to sign the bid on
	Signature	Firm	
	Signature	Firm	
	Signature	Firm	
ARTICLE 9-0	CORPORATE CERTIFIC	ATE	
9.1	The same officer shall n only one person occupie		and the certificate, unless
9.2	R & R Internation the corporation, was there the corporation, that the	nal, Inc., who sign July 20, 1992 e Bid was duly signed for the corporation by	d as BIDDER herein; that gned this Bid on behalf of of and the corporate seal authority of its governing vers.
9.3	If a foreign corporation, and will register in Mich		corporation is qualified to
ARTICLE 10	-SIGNATURE OF BIDD	<u>ER</u>	
10.1	This Bid is submitted in	the name of:	
	R & R	International, Inc.	<u>,</u>
	Post Office Box 4383	Akron Ohio 44321	(216) 666-2200
	Street City	State	Zip Code Phone

10.2 For the stated conditions and price(s), the Undersigned submits this Bid:

Signed this 20 day of July

(Signature)

Bruce W. Panning
(Name printed)

Corporate Operations Mgr. (Title)

RID. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

LP

PRODUCER

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER, THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

ALAN ROSS INSURANCE AGENCY LAKEWOOD, OH 44107 REPATH ASSOCIATES, INC. NASHVILLE, TN 37215

INSURED R & R INTERNATIONAL, INC. 1234 S. CLEVELAND-MASSILLON ROAD COMPANY A LETTER

COMMERCE & INDUSTRY INS. CO.

COMPANY B LETTER

U S F & G INSURANCE GROUP

COMPANY C LETTER

CRUM & FORSTER INSURANCE COMPANY

COMPANY D LETTER

ALL LIMITS ARE AT INCEPTION

COMPANY E LETTER

CLAIMS MAY REDUCE AGG. LIMITS

COVERAGES

AKRON, OH 44321

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS. EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

POLICY EFFECTIVE POLICY EXPIRATION

LTR	TYPE OF INSURANCE	POLICY NUMBER	DATE (MM/DD/YY)	DATE (MM/DD/YY)	LIMITS	1
A	GENERAL LIABILITY				GENERAL AGGREGATE	\$ 5000000
	X COMMERCIAL GENERAL LIABILITY	CM3403526RA	3/20/92	3/20/93	РРДОТИЦІСТІЄ УСОМР/ОР AGG.	\$ 5000000
	χ CLAIMS MADE OCCUR.				PERSONAL & ADV. INJURY	\$ 5000000
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	\$ 5000000
	X EXPLOSION, COLL	APSE, AND UNDERGRO	UND		FIRE DAMAGE (Any one fire)	\$
	· · · · · · · · · · · · · · · · · · ·			·-··	MED. EXPENSE (Any one person)	\$
В	AUTOMOBILE LIABILITY X ANY AUTO	1CP30005582200	10/30/91	10/30/92	COMBINED SINGLE LIMIT	1000000
	ALL OWNED AUTOS SCHEDULED AUTOS				BODILY INJURY (Per person)	s
	HIRED AUTOS NON-OWNED AUTOS				BODILY INJURY . (Per accident)	s
:	GARAGE LIABILITY				PROPERTY DAMAGE	\$
C	EXCESS LIABILITY	RERI50	4/1/92	10/30/92	EACH OCCURRENCE	\$ 4000000
	UMBRELLA FORM X OTHER THAN UMBRELLA FORM	EXCESS AUTOMOBILE	LIABILIT	Υ	AGGREGATE	\$ 4000000
	WORKER'S COMPENSATION				STATUTORY LIMITS	
	AND				EACH ACCIDENT	\$
					DISEASE—POLICY LIMIT	\$
	EMPLOYERS' LIABILITY				DISEASE—EACH EMPLOYEE	\$
Δ	OTHER		1		:	
:	CONTRACTOR S	CPL71667700	3/20/92	3/20/93	-,*	EA. LOSS
	POLLUTION LIABILITY				500000	TOTAL

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

TO WHOM IT MAY CONCERN

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

©ACORD CORPORATION

ACORD 25-S (7/90)

STATE OF OHIO BUREAU OF WORKERS' COMPENSATION

COLUMBUS, OHIO 43215
CERTIFICATE OF PREMIUM PAYMENT

This certifies that the employer listed below has paid into the State Insurance Fund as required by law. Therefore, the employer is entitled to the rights and benefits of the fund for the period specified.

THIS CERTIFICATE MUST BE CONSPICUOUSLY POSTED.

RISK NO. AND EMPLOYER

PERIOD SPECIFIED BELOW

75 28 99

01-01-92 THRU 08-31-9

R & R INTERNATIONAL INC P 0 80% 4383 AKRON OH 44321

BWC-1622 (Rev. 8/90) DP-22

CEO/ADMINSTRATOR

THIS CERTIFICATE MAY BE REPRODUCED AS NEEDED

R&R

DRILLING EQUIPMENT

The Drilling Division of R&R is experienced at providing a wide range of field services for projects as diverse as off-shore geotechnical foundation investigations to installation of large diameter stainless steel monitoring wells at Superfund sites. R&R excels at the challenge offered by unique projects requiring novel drilling techniques. Working together, our team of drilling professionals, mechanics, and engineers have designed, built, and implemented a remote control drilling system for specialized use at particularly hazardous sites. Our drilling professionals are well-trained and fully supported by a well-equipped maintenance facility at our corporate headquarters in Akron, Ohio. R&R's drilling equipment includes, but is not limited to, the following:

- CME 55, 75, AND E45 DRILLS ON FORD CHASSIS
- CME 750, ATV DRILL
- DAVEYKENTDK-5, AIRROTARYRIG
- SKIDDRILLRIG
- TRACK-MOUNTED ANGLEHEAD DRILLRIG/SIMCO 4000
- CENTRIFUGAL&SUBMERSIBLEPUMPS
- CME CONTINUOUS SAMPLERS, 3 1/4, 4 1/4 INCHES
- GIMMER SCHMIDTAIR COMPRESSOR
- PORTABLEWATER TANK
- PRESSUREWATER & STEAM CLEANER

COMMUNICATIONS EQUIPMENT

BEEPERS

- CELLULAR CARTELEPHONES
- 2-WAYRADIO
- BASERADIOS



TODD BROMLEY DRILLING COORDINATOR

EDUCATION

1990 - 24-Hour Hazardous Materials First Responders Course

1989 - Health & Safety Training - 40-Hour Course, per OSHA 1910.120

1986 - Completed One Year of General Studies at Slippery Rock University

EXPERIENCE PROFILE

One and one-half years experience in various drilling procedures and remediation projects. Member of R&R's Emergency Response Team. Worked on Level A, B, and C projects with various types of contaminants including PCBs and other hazardous waste compounds, such as nerve and blood agents, mustard gas, JP-4, and others. Hands-on experience using heavy equipment such as track-hoes, hi-lifts, bulldozers, and tractor trailers. Instrumental in assisting remediation manager in establishing the remediation department at R&R.

REPRESENTATIVE PROJECTS

Drilling; Driller: Operated all of our drill rigs. Experienced in rock coring air and wash rotary, casing advancement, and H.S.A.

Hazardous Waste Operations; Field Foreman: Heavy equipment operator and Project Manager at Newark Air Base Ferriot Bros. In charge of removal and cleaning of underground storage tanks and performed a lot of PCB and other Hazardous wastes clean-up jobs.

Proposing Drilling Jobs; Drilling Coordinator: Prepare job proposals, schedule drill rigs, manage the drill rigs and crew, and solve problems in the field.



ROBERT KRUKOW MANAGER, DRILLING DIVISION

EXPERIENCE PROFILE

Over thirteen (13) years experience in drilling with over three years in planning and managing environmental and geotechnical projects. Extensive hands-on involvement on projects involving sampling, installation of monitoring wells, specialized drilling, in soil and rock, and rock coring. Experience ranges from drilling wells for oil and gas exploration to drilling on hazardous waste, superfund/CERCLA, and potentially radioactivity contaminated sites.

REPRESENTATIVE PROJECTS

- Specialized Drilling Thermocouple Installation; Driller and Site Supervisor: Drilled and installed thermocouples at a sanitary landfill in Cuyahoga County, Ohio, to investigate an underground fire caused by previous drilling (by others) into buried combustible material. All work was performed under EPA Level C personal protection.
- Hazardous Waste Site Drilling; Project Manager: Planning and management of drilling 75 soil borings and installation of 14 Monitoring wells at the Army Materials Technology Laboratory (AMTL), Water Town, Massachusetts. All work was performed under Level C with potential upgrade to Level B personal protection. Site hazards included radioactivity and unexploded ordinance. Stringent safety and health protocol and plan associated with hazardous waste sites in compliance with 29 CFR 1910.120 was followed.
- Groundwater Remediation Recovery Wells; Driller and Site Manager: Participated in the installation of recovery wells which led to the successful implementation of a groundwater remediation system (floating product recovery) at the Pennzoil Refinery in Oil City, Pennsylvania.
- Underground Storage Tank Site Assessment Drilling; Project Manager: Supervised drilling and installation of monitoring wells under Level D protection as a part of a UST fuel contamination hydrogeological assessment at the Wright-Patterson Air Force Base in Dayton, Ohio.
- Barge Drilling; Project Manager: Planned, managed and performed field supervision of soil sampling and rock coring for a Scour Study for the New York Thruway on I-90 from Buffalo, New York to Syracuse, New York. The majority of the work was performed on a Barge Platform.
- Oil and Gas Exploratory Drilling; Driller: Spent ten years in West Texas and New Mexico drilling various oil and gas wells ranging in depth from 4,000 feet to 15,000 feet.

EDUCATION

No formal academic education received

1990 - Health & Safety Training - 24 hour course, per OSHA 29 CFR 1910.120

1991 - Health & Safety Training - 8 hour refresher course



1234 S. CLEVE-MASS ROAD P.O. BOX 4383 AKRON, OHIO 44321 TEL. (216) 666-2200 FAX (216) 666 7874

July 20, 1992

Carl A. Masom ARCS Program Manager WW Engineering and Science, Inc. 555 Glenwood Hills, Parkway S. E. Post Office Box 874 Grand Rapids, Michigan 49588-9600

Reference:

Proposal for U.S. EPA Arch Contract Number 68-W8-0079

Drilling and Installation of Monitoring Wells

Dear Mr. Masom,

Please find the enclosed Bid Bond in support of the above referenced project. Per your conversation with Ms. Susan Hatfield, on Monday, July 20, 1992 we are sending this under separate cover due to a delay in processing our Bond. a copy of our Proposal was mailed yesterday, and should arrive at your office via AirBorne Express Mail today. Please contact the undersigned at (216) 6662-2200.

Respectfully,

R & R INTERNATIONAL, INC.

Todd S. Bromley Drilling Coordinator

TSB/slh



Administrative Office:

518 Stuyvesant Avenue P.O. Box 615 Lyndhurst, NJ 07071-9836

Bond No. WF-00040454

Bid Bond

TO

KNOW	1 /	YLL	WEN	BY	THESE	PRESENT	S,	that	we
	_								

R & R INTERNATIONAL

1234 S. CLEVELAND-MASSILLON ROAD

AKRON

OH 44321-

as Principal, hereinafter called the Principal, and

WESTCHESTER FIRE INSURANCE COMPANY 518 Stuyvesant Avenue, P.O. Box 615 Lyndhurst, New Jersey 07071-9836

a corporation duly organized under the laws of the State of New York as Surety, hereinafter called the Surety, are held and firmly bound unto

WW ENGINEERING AND SCIENCE INC

5555 GLENWOOD HILLS PARKWAY, SOUTHEAST POST OFFICE, BOX 874

GRAND RAPIDS

MI 49588-0874

as Obligee, hereinafter called the Obligee, in the sum of 5% of bid not to exceed

Eight Thousand Five Hundred Ninety and 00/100

Dollars (\$ ******\$8,590.00),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents. WHEREAS, the Principal has submitted a bid for

INSTALLATION OF GROUND MONITORING WELLS.

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surely for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Bond WF-00040454

has been signed, sealed and dated 07/21/1992.

WESTCHESTER FIRE INSURANCE COMPANY

Alice M. Ventresca

Attorney-in-Fact

DZZ

INTERNATIONAL,

TO

WESTCHESTER FIRE INSURANCE COMPANY

NEW YORK, NEW YORK

STATEMENT AS OF DECEMBER 31, 1991

ASSETS			LIABILITIES AND SURPLUS			
Bonds Stocks:	. \$	1,314,369.409	Losses and Adjustment			
Preferred	\$ 3,234,769		Expenses	\$	990,893,991	
Common	142,489,286	145,724,055	Taxes and			
Real Estate		7,711,712	Expenses		34,760,068	
Cash and Bank			Unearned			
Deposits		(4,861,357)	Premiums		124,124,012	
Short Term	•		Other Liabilities		106,098,575	
Investments		58,373,019	Capital	\$ 2,500,000	•	
Other Invested			Paid in and			
Assets		4.260,851	Contributed	-		
Premium Balances			Surplus	130,160,715		
Receivable		85,218,263	Other			
Equities and Deposits			Surplus	263,350,144		
in Pools and			Surplus to			
Associations		6,128,677	Policyholders		396,010,859	
Other Assets	_	34,962,876				
Total Admitted Assets	ş <u>1</u>	,651,887,505	Total Liabilities and S	Surplus \$1	<u>,651,887,505</u>	

Bonds and Stocks are valued in accordance with the basis adopted by the National Association of Insurance Commissioners.

Securities carried at \$170,607,776 in the above statement are deposited as required by law.

STATE OF NEW JERSEY COUNTY OF MORRIS

GEORGE J. RACHMIEL. Senior Vice President & Treasurer and MICHAEL A. SANDRI, Vice President of the Westchester Fire Insurance Company being duly sworn, each for himself deposes and says that they are the above described officers of the said Company and that on the 31st day of December, 1991 the Company was actually possessed of the assets set forth in the foregoing statement and that such assets were available for the payment of losses and claims and held for the protection of its policyholders and creditors, except as hereinbefore indicated, and that the foregoing statement is a correct exhibit of such assets and liabilities of the said Company on the 31st day of December, 1991 according to the best of their information, knowledge and belief, respectively.

Corporations

Sworn to and Subscribed before me this 3rd day of April, 1992.

Dann M. Brancoupe

DAWN M. BIAMONTE NOTARY PUBLIC OF NEW JERSEY Notaria

Senior Vice President & Treasurer

POWER OF ATTORNEY WESTCHESTER FIRE INSURANCE COMPANY PRINCIPAL OFFICE, NEW YORK, N.Y.

know all Men by These Presents: That the West Chester Fire Insurance Company a Corporation duly organized and existing under the laws of the State of New York, and having its administrative offices in the Township of Morris, New Jersey, has made, constituted and appointed, and does by these presents make, constitute and appoint Robert A. Nicosia, Richard L. Quackenbush, Margaret A. Nicosia, Richard Ingram, Michelle Nicosia, and Alice M. Ventresca of Lyndhurst, New Jersey, each

each its true and lawful Agent(s) and Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, seal, acknowledge and deliver: Any and all bonds and undertakingsand to bind the Corporation thereby as fully and to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Corporation at its offices in Morris Township, New Jersey in their own proper persons. This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated. This Power of Attorney revokes all previous powers issued in behalf of the attorney(s)-in-fact named above. IN WITNESS WHEREOF the Westchester Fire Insurance Company has caused these presents to be signed and artested by its appropriate officers and its corporate seal hereunto affixed this 19, 91 April 6 WESTCHESTER FIRE INSURANCE COMPANY Attest: Assistant Secretary Vice President Richard A. Annese John K. Stewart STATE OF NEW JERSEY) COUNTY OF MORRIS) April day of. qualified Notary Public of the State of New Jersey, came the above-mentioned Vice President and Assistant Secretary of the Westchester Fire Insurance Company, to me personally known to be the officers described Morexecuted the preceding instrument, and they acknowledged the execution of the same, and being How me dilly offer, deposed and said, that they are the officers of said Company aforesaid, and that the seal of affixed to the preceding instrument is the Corporate Seal of said Company, and the said Corporate Seal and their sepatures ar officers were duly affixed and subscribed to the said instrument by the authority and direction of the saig Company.

TESTIMONY SHEREOF, I have hereunto set my hand and affixed my seal at the Township of Morns, the

MAWN M RILMONTP

THE MODEL AND ASSET

day and year lies above written.



1234 S. CLEVE-MASS ROAD P.O. BOX 4383 AKRON, OHIO 44321 TEL. (216) 666-2200 FAX (216) 666-7874

July 20, 1992

Carl A. Masom ARCS Program Manager WW Engineering and Science, Inc. 555 Glenwood Hills, Parkway S. E. Post Office Box 874 Grand Rapids, Michigan 49588-9600

Reference:

Proposal for U.S. EPA Arch Contract Number 68-W8-0079

Drilling and Installation of Monitoring Wells

Dear Mr. Masom,

Please find the enclosed Bid Bond in support of the above referenced project. Per your conversation with Ms. Susan Hatfield, on Monday, July 20, 1992 we are sending this under separate cover due to a delay in processing our Bond. a copy of our Proposal was mailed yesterday, and should arrive at your office via AirBorne Express Mail today. Please contact the undersigned at (216) 6662-2200.

Respectfully,

R & R INTERNATIONAL, INC.

Todd S. Bromley Drilling Coordinator

TSB/slh



Administrative Office:

518 Stuyvesant Avenue P.O. Box 615 Lyndhurst, NJ 07071-9836

Bond No. WF-00040454

Bid Bond

KNOW ALL MEN BY II	HESE PRESENTS, that we
D O D INTERNATIONAL	TNC

1234 S. CLEVELAND-MASSILLON ROAD

OH 44321-

as Principal, hereinafter called the Principal, and

WESTCHESTER FIRE INSURANCE COMPANY 518 Stuyvesant Avenue, P.O. Box 615 Lyndhurst, New Jersey 07071-9836

a corporation duly organized under the laws of the State of New York as Surety, hereinafter called the Surety, are held and firmly bound unto

WW ENGINEERING AND SCIENCE INC

5555 GLENWOOD HILLS PARKWAY, SOUTHEAST POST OFFICE, BOX 874

GRAND RAPIDS MI 49588-0874

as Obligee, hereinafter called the Obligee, in the sum of 5% of bid not to exceed

Eight Thousand Five Hundred Ninety and 00/100

Dollars (\$ ******\$8,590.00),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents. WHEREAS, the Principal has submitted a bid for

INSTALLATION OF GROUND MONITORING WELLS.

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Bond WF-00040454

has been signed, sealed and dated 07/21/1992.

WESTCHESTER FIRE INSURANCE COMPANY

Alice M. Ventresca

Attorney-in-Fact

INTERNATIONAL, INC.

WESTCHESTER FIRE INSURANCE COMPANY

NEW YORK, NEW YORK

STATEMENT AS OF DECEMBER 31, 1991

ASSETS

LIABILITIES AND SURPLUS

Senior Vice President & Treasurer

Midal a. Sandie

110	SEIS				
Bonds	\$1,314,369,409	Losses and			
Stocks:	# 2 224 7/0	Adjustment			
Preferred		Expenses \$ 990,893,991			
Common		Taxes and			
Real Estate	7,711,712	Expenses			
Cash and Bank		Unearned			
Deposits	(4,861,357)	Premiums 124,124,012			
Short Term		Other Liabilities 106,098,575			
Investments	58,373,019	Capital \$ 2,500,000			
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Assets	4,260,851	Contributed			
Premium Balances		Surplus			
Receivable	85,218,263	Other			
Equities and Deposits		Surplus 263,350,144			
in Pools and		Surplus to			
Associations	6,128,677	Policyholders 396,010,859			
Other Assets	34,962,876				
Total Admitted Assets	\$1,651,887,505	Total Liabilities and Surplus \$1,651,887,505			

Bonds and Stocks are valued in accordance with the basis adopted by the National Association of Insurance Commissioners.

Securities carried at \$170,607,776 in the above statement are deposited as required by law.

STATE OF NEW JERSEY
COUNTY OF MORRIS
SS:

GEORGE J. RACHMIEL, Senior Vice President & Treasurer and MICHAEL A. SANDRI, Vice President of the Westchester Fire Insurance Company being duly sworn, each for himself deposes and says that they are the above described officers of the said Company and that on the 31st day of December, 1991 the Company was actually possessed of the assets set forth in the foregoing statement and that such assets were available for the payment of losses and claims and held for the protection of its policyholders and creditors, except as hereinbefore indicated, and that the foregoing statement is a correct exhibit of such assets and liabilities of the said Company on the 31st day of December, 1991 according to the best of their information, knowledge and belief, respectively.

Corporation's Seat

Sworn to and Subscribed before me this 3rd day of April, 1992.

Raus M. Bianosto

DAWN M. BIAMONTE NOTARY PUBLIC OF NEW JERSEY My Commission Expires July 25, 1993 Notarial Seal

POWER OF ATTORNEY WESTCHESTER FIRE INSURANCE COMPANY PRINCIPAL OFFICE, NEW YORK, N.Y.

KNOW ALL MEN BY THESE PRESENTS: That the WESTCHESTER FIRE INSURANCE COMPANY a Corporation duly organized and existing under the laws of the State of New York, and having its administrative offices in the Township of Morris, New Jersey, has made, constituted and appointed, and does by these presents make, constitute and appoint Robert A. Nicosia, Richard L. Quackenbush, Margaret A. Nicosia, Richard Ingram, Michelle Nicosia, and Alice M. Ventresca of Lyndhurst, New Jersey,

each its true and lawful Agent(s) and Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, seal, acknowledge and deliver: Any and all bonds and undertakings--and to bind the Corporation thereby as fully and to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Corporation at its offices in Morris Township, New Jersey in their own proper persons. This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated. This Power of Attorney revokes all previous powers issued in behalf of the attorney(s)-in-fact named above. IN WITNESS WHEREOF the Westchester Fire Insurance Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 3rd day of attested by its appropriate officers and its corporate seal hereunto affixed this 19 91 April Attest: WESTCHESTER FIRE INSURANCE COMPANY day of April 1991, before the subscriber, a duly Secretary of the Westchester Fire Insurance Company, to me personally known to be the officers described and Assistant Secretary of the Westchester Fire Insurance Company, to me personally known to be the officers described milk and who executed the preceding instrument, and they acknowledged the execution of the same, and being who, me dulf of the preceding instrument is the Corporate Seal of said Company aforesaid, and that the seal of said to the preceding instrument is the Corporate Seal of said Company, and the said Corporate Seal of said Company, and the said Corporate direction of the said Company.

IN TESTIMONY WHEREOF, I have hereunted the said instrument in the said instrument in the said instrument is the corporate Seal of said Company.

NOTARY PUBLIC OF NEW JERSEY MY COMMISSION EXPIRES JULY 25, 1993

(Sealy IIIIIIIIIIIIIII

TLMONY WHEREOF, I have hereunto set my hand and affixed my seal at the Township of Morris, the

Notary Public

This Power of Attorney is granted pursuant to Article IV of the By-Laws of the WESTCHESTER FIRE INSURANCE COMPANY as now in full force and effect.

ARTICLE IV Execution of Instruments. "The Chairman of the Board, Vice-Chairman of the Board, President, or any Vice-President, in conjunction with the Secretary, or any Secretary, if more than one shall be appointed by the Board, or an Assistant Secretary, shall have power on behalf of the Corporation:

- (a) to execute, affix the corporate seal manually or by facsimile to, acknowledge, verify and deliver any contracts, obligations, instruments and documents whatsoever in connection with its business including, without limiting the foregoing, any bonds, guarantees, undertakings, recognizances, powers of attorney or revocations of any powers of attorney, stipulations, policies of insurance, deeds, leases, mortgages, releases, satisfactions and agency agreements;
- (b) to appoint, in writing, one or more persons for any or all of the purposes mentioned in the preceding paragraph (a), including affixing the seal of the Corporation."

This Power of Attorney is signed and sealed under and by the authority of Article III, Section 9 of the By-Laws of the WESTCHESTER FIRE INSURANCE COMPANY as now in full force and effect.

ARTICLE III Section 9 Facsimile Signatures. "The signature of any officer authorized by the Corporation to sign any bonds, guarantees, undertakings, recognizances, stipulations, powers of attorney or revocations of any powers of attorney and policies of insurance issued by the Corporation may be printed facsimile, lithographed, or otherwise produced . . . The Corporation may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Corporation, notwithstanding the fact that he may have ceased to be such at the time when such instruments shall be issued."

CERTIFICATE

State of New Jersey County of Morris

I, the undersigned, Assistant Secretary of the WESTCHESTER FIRE INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing POWER OF ATTORNEY remains in full force and effect and has not been revoked and furthermore that the above quoted abstracts of Article IV and Article III, Section 9 of the By-Laws of the Corporation are now in full force and effect.

Signed and sealed a	t the Township of Mor	ris, New Jersey dated	 21st	
day of Ju	ıly , ı	9 <u>92</u> .	 	

By There It Surder

Assistant Secretary
Herbert H. Linder